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Single Board Computer

PEAK 760 Series

User's Manual

01-17-2005 Build

02-09-2006 Update

Prepared by Zack

Preface

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Acknowledgements

The PEAK 760 series is a trademark of NEXCOM international CO., LTD. All other product names mentioned herein are registered trademarks of their respective owners.

Regulatory Compliance Statements

This section provides the FCC compliance statement for Class A devices and describes how to keep the system CE compliant.

Federal Communications Commission (FCC) For Class A Device

This equipment has been tested and verified to comply with the limits for a Class A digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area (domestic environment) is likely to cause harmful interference, in which case the user will be required to

correct the interference (take adequate measures) at their own expense.

CE Certification

The product(s) described in this manual complies with all applicable European Union (CE) directives if it has a CE marking. For computer systems to remain CE compliant, only CE-compliant parts may be used. Maintaining CE compliance also requires proper cable and cabling techniques.

WARNINGS

Read and adhere to all warnings, cautions, and notices in this guide and the documentation supplied with the chassis, power supply, and accessory modules. If the instructions for the chassis and power supply are inconsistent with these instructions or the instructions for accessory modules, contact the supplier to find out how you can ensure that your computer meets safety and regulatory requirements.

CAUTION

Electrostatic discharge (ESD) can damage NSA components. Do the described procedures only at an ESD workstation. If no such station is available, you can provide some ESD protection by wearing an antistatic wrist strap and attaching it to a metal part of the computer chassis.

Safety Information

Before installing and using the PEAK 760, note the following precautions:

- Read all instructions carefully.
- Do not place the unit on an unstable surface, cart, or stand.
- Follow all warnings and cautions in this manual.
- When replacing parts, ensure that your service technician uses parts specified by the manufacturer.
- Avoid using the system near water, in direct sunlight, or near a hearing device.

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Chapter 1
General Information

1.1 Main Feature

Support socket LGA775 Intel® Pentium 4 Hyper-Threading Technology with 533/800 MHz FSB, speed up to 3.8GHz

- Intel® 915GV and ICH-6 chipsets
- 240-pin DIMM x 4, support dual channel DDR2 400/533 up to 3.2 GB
- Intel® PC82573L PCI Express Gigabit Ethernet Controller x 2 supporting two GbE LAN ports (PEAK760VL2)
- Shared integrated graphics controller from chipset with 2048 x 1536 resolution @ 85 Hz
- Support IDE and SATA HDD
- Optional Compact Flash socket
- USB 2.0 Port x 6, COM x 2
- Support Disk on Module

1.2 Specifications

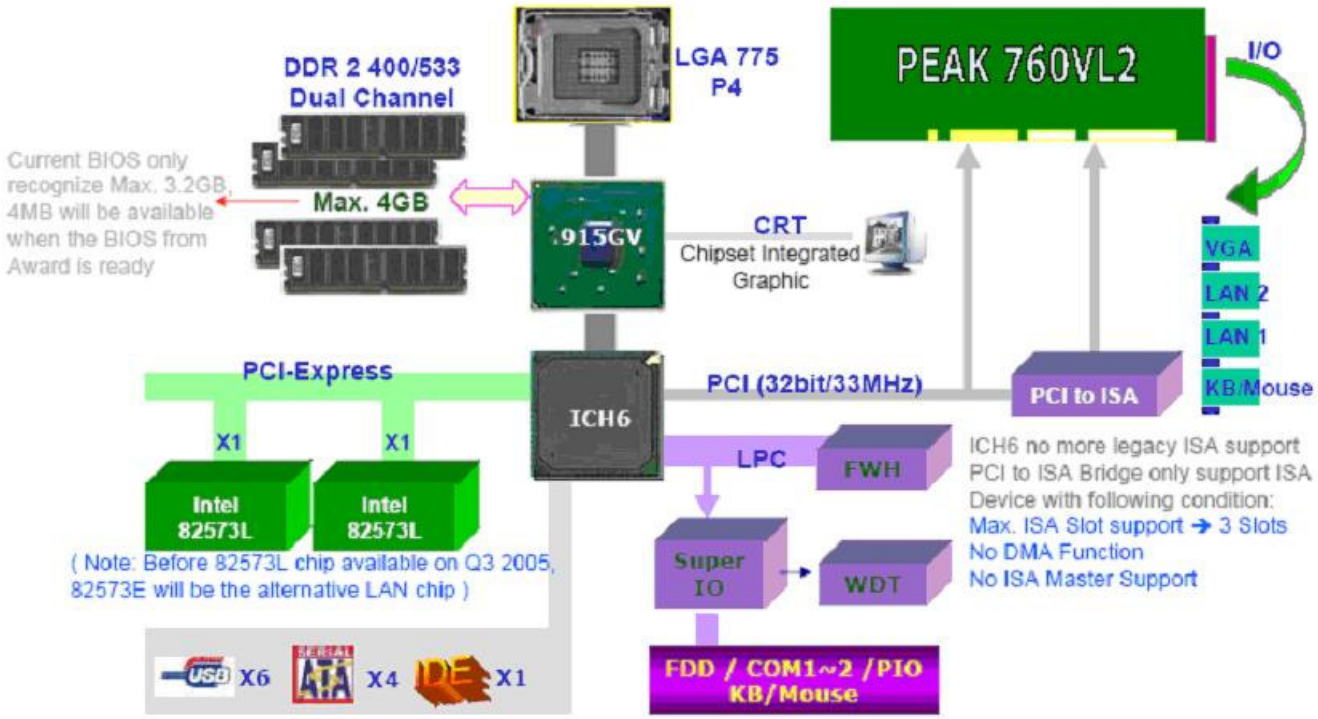


Figure 1.1: Block Diagram of PEAK 760

System Architecture	- PICMG Socket LGA775 Full-Sized SBC
CPU Support	- Single socket LGA 775 - Support Intel® Pentium® 4 processor with 533/800 MHz FSB, speed up to 3.8 GHz - Support Intel® Hyper-Threading technology
Memory	- 4 x 240-pin DIMM - *Dual channel DDR2 400/533 MHz, up to 3.2 GHz
BIOS	- Plug & Play support - Award System BIOS - Advanced Power Management and Advanced Configuration & Power Interface support
Chipset	- Intel® 915GV - Intel® ICH-6
LAN	- Intel® PC82573L PCI Express Gigabit Ethernet Controller x 2 supporting two GbE LAN ports
Display	- Share integrated Graphics controller from 915GV chipset - Analogue Display Support: Up to 2048 x 1536 @ 85 Hz for CRT - VGA DB-15 connector x 1
I/O Interface	- Serial port: 10-pin box header x 2, support RS232 Only. - Disk on module: 2-pin power connector for DOM - USB: Six USB2.0 ports via three 6-pin JST connector with 480Mb/s bandwidth - IDE HDD: Ultra ATA100/66/33, 40 pin connectorx1 - Optional CF socket x 1 - SATA HDD: 4 Serial ATA Ports, bandwidth: 150 MB/s - Disk on module: 2-pin power connector for DOM - Parallel port: 26-pin connector x 1 - Mini-DIN PS/2 keyboard/Mouse x 1 - Floppy: 34-pin connectorx1 - Digital I/O Port: 4 in and 4 out with TTL level interface - On board buzzer x 1 - On board 2-pin header for reset - 4-pin for speaker - 2-pin power-on button switch

I/O on Bracket	- 2-pin header for SMBus 2.0 - 4-pin FAN Jst connector x 1 (For CPU); 3-pin FAN connector x 2 - 5-pin connector x 1 for Chassis or Backplane Front Keyboard - Pin Header Key Lock/Power LED/HDD LED - VGA DB-15 connector x 1 - RJ45 Gigabit Ethernet LAN port x 2 - Mini-DIN for Keyboard/mouse x 1
System Monitor	- System monitor controller from Super I/O - 8 voltage (For +1.5V, +3.3V, +5V, -5V, +12V, -12V, Vcore and +5VSTBY) - 2 temperature (For CPU and system) - 3 FAN speed monitor (one for CPU and 2 for systems)
Real Time Clock	- On-chip RTC with battery back up - External Lithium battery x 1
Watchdog Timer	- 1-minute increments from 1 to 255 minutes - 1-second increments from 1 to 255 seconds
Dimensions	- 338.58mm (L) x 122mm (W) (13.3”/L x 3.8”/W)
Power Requirements	- 5V, 12V
Environments	- Board-level operating temperatures: -20°C to 65°C - Storage temperatures: -20°C to 80°C - Relative humidity: 10% to 90% (Non-condensing)
Certification	- CE - FCC

Remark:

3.2GB as Award BIOS limitation by maximum capacity currently;
According to the chipset spec, the 915GV can only decode HA3~HA31, maximum 4GB address space. The 4GB address space will be shared by the following usage:

1. Memory mapped I/O space for processor build-in device, e.g. APIC
2. Memory mapped I/O space for PCI device
3. Memory mapped memory space for system memory, PCI device memory...

Therefore, the PEAK760 will not be able to see 4GB system memory size when installing 4GB DDR2 modules to DRAM socket. The more PCI Add-On card installed, the less memory size will be support.

Ordering Information

PEAK 760VL (LF)

NEW Full-sized LGA775 socket support Intel Pentium-4/ Celeron-D CPU board with PCI Express Gigabit Ethernet LAN port x 1

PEAK 760VL2 (LF)

NEW Full-sized LGA775 socket support Intel Pentium-4/ Celeron-D CPU board with PCI Express Gigabit Ethernet LAN port x 2

1.3 Power Consumption Measurement

Required watts and currents for Power Supply

Power Type	+12V	+5V	+5VSB
Consumed watts (Item: W)	144	76.77	5.27
Consumed currents (Item A)	12	15.35	1.05
Actually required currents (Item A/0.8)	15	20	1.5

1.4 Board Layout

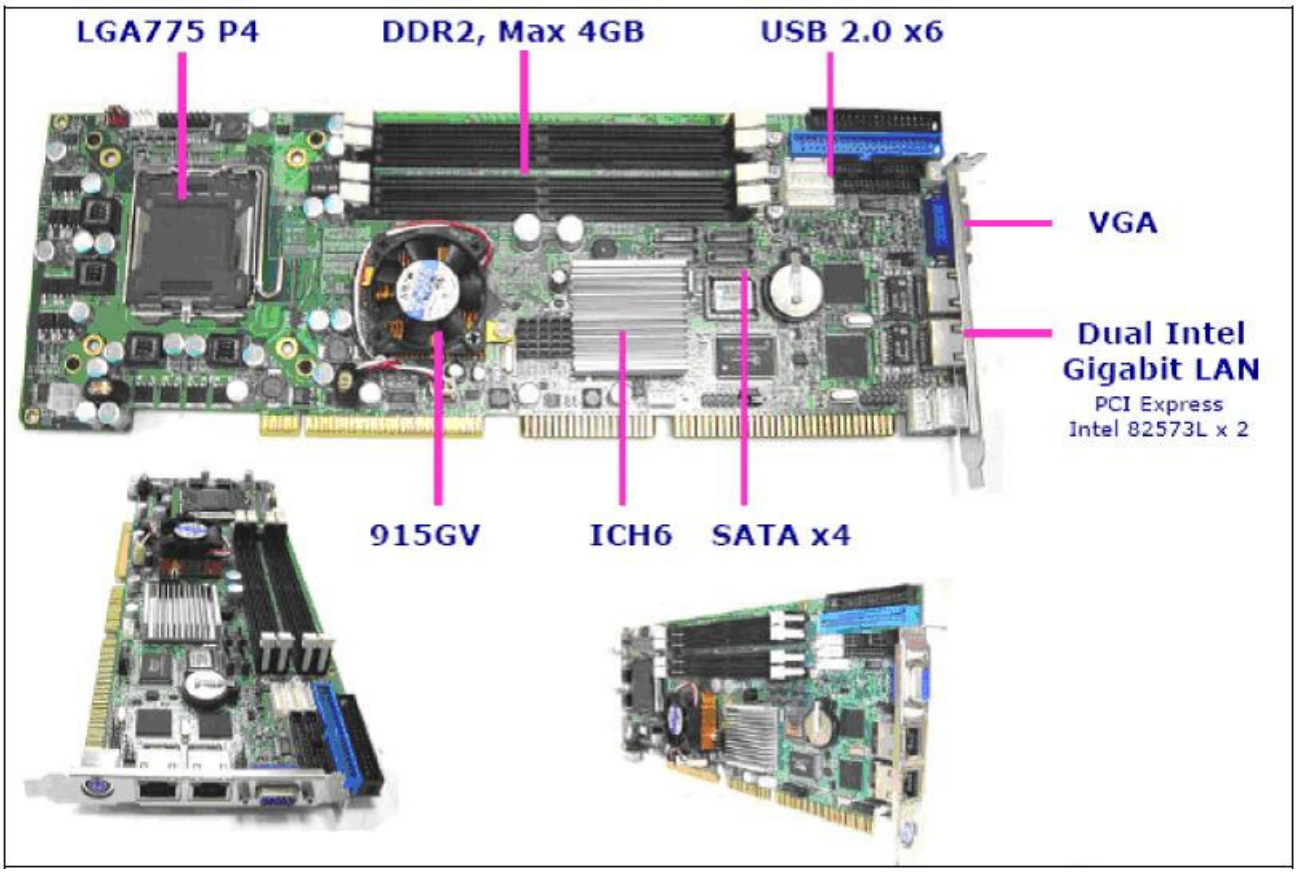


Figure 1.2: Overview of PEAK 760

1.5 Board Dimensions

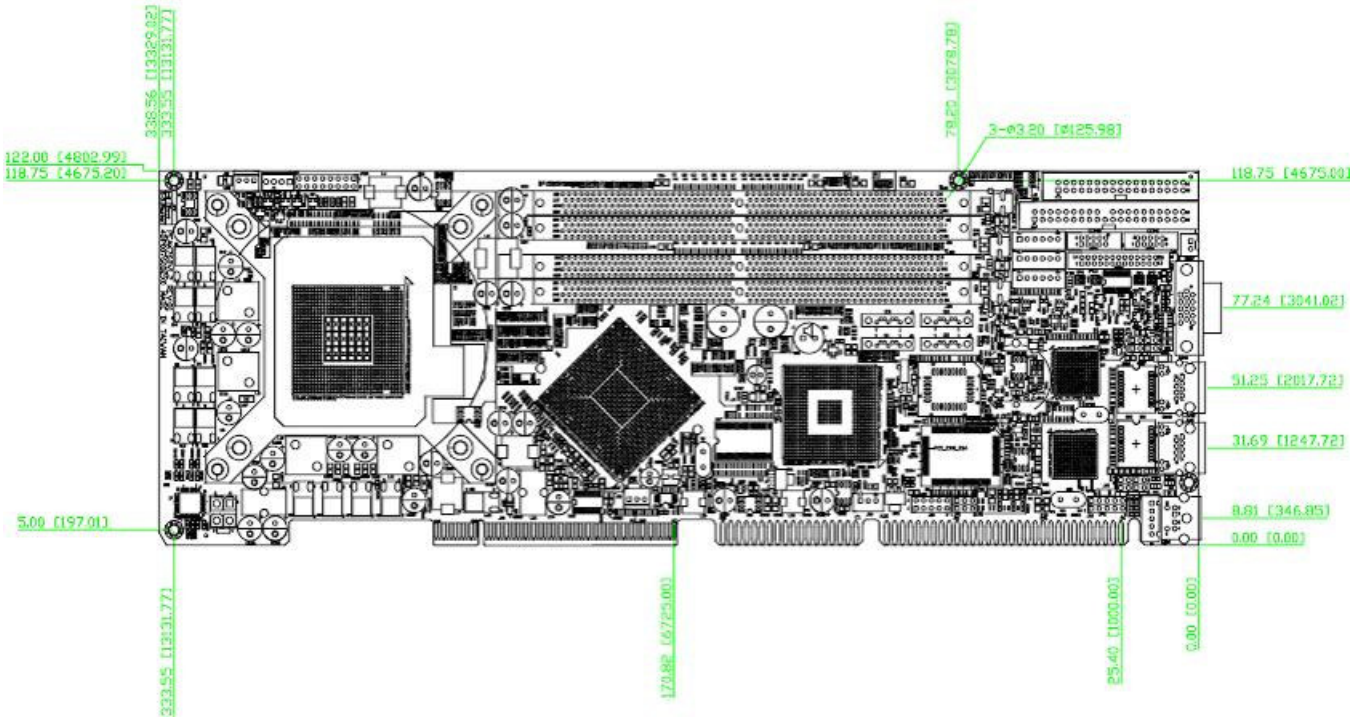


Figure 1.3: Mechanical Drawing of the PEAK-760

Chapter 2
Jumper Setting

This chapter of the User's Manual describes how to set jumpers.

Note: The procedures that follow are generic for all PEAK 760 series.

2.1 Before You Begin

Ensure you have a stable, clean working environment. Dust and dirt can get into components and cause a malfunction. Use containers to keep small components separated.

Adequate lighting and proper tools can prevent you from accidentally damaging the internal components. Most of the procedures that follow require only a few simple tools, including the following:

- ♦ A Philips screwdriver
- ♦ A flat-tipped screwdriver
- ♦ A set of jewelers Screwdrivers
- ♦ A grounding strap
- ♦ An anti-static pad

Using your fingers can disconnect most of the connections. It is recommended that you do not use needle-nosed pliers to disconnect connections as these can damage the soft metal or plastic parts of the connectors.

Before working on internal components, make sure that the power is off. Ground yourself before touching any internal components, by touching a metal object. Static electricity can damage many of the electronic components. Humid environment tend to have less static electricity than dry environments. A grounding strap is warranted whenever danger of static electricity exists.

2.2 Precautions

Computer components and electronic circuit boards can be damaged by discharges of static electricity. Working on the computers that are still connected to a power supply can be extremely dangerous. Follow the guidelines below to avoid damage to your computer or yourself:

- ♦ Always disconnect the unit from the power outlet whenever you are working inside the case.
- ♦ If possible, wear a grounded wrist strap when you are working inside the computer case. Alternatively, discharge any static electricity by touching the bare metal chassis of the unit case, or the bare metal body of any other grounded appliance.
- ♦ Hold electronic circuit boards (such as the PEAK 760 board) by the edges only. Do not touch the components on the board unless it is necessary to do so. Don't flex or stress the circuit board.
- ♦ Leave all components inside the static-proof packaging that they shipped with until they are ready for installation.
- ♦ Use correct screws and do not over tighten screws.

2.3 Setting Jumpers

A jumper is the simplest kind of electric switch. It consists of two metal pins and a cap. When setting the jumpers, ensure that the jumper caps are placed on the correct pins. When the jumper cap is placed on both pins, the jumper is SHORT. If you remove the jumper cap, or place the jumper cap on just one pin, the jumper is OPEN. Please see the following illustrations

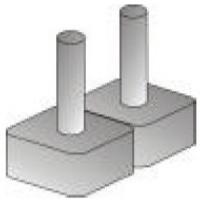
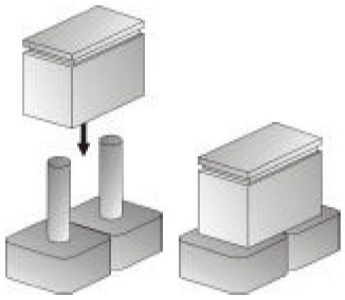
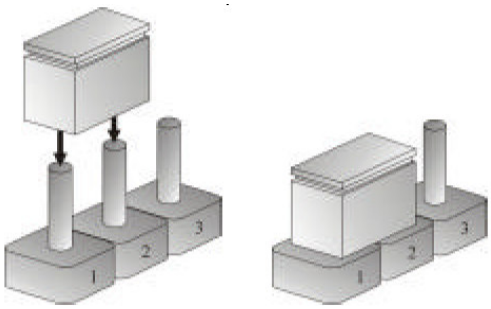
<table>
<tr><td rowspan="2">The illustrations on the right show a 2-pin jumper. When the jumper cap is placed on both pins, the jumper is SHORT. If you remove the jumper cap, or place the jumper cap on just one pin, the jumper is OPEN.</td><td>  </td><td>  </td></tr>
<tr><td>Open (Off)</td><td>Short (On)</td></tr>
<tr><td>These illustrations show a 3-pin jumper. Pins 1 and 2 are SHORT.</td><td colspan="2"> 
</td></tr>
</table>

Table 2-1: Setting Jumpers

2.4 Location of Jumpers

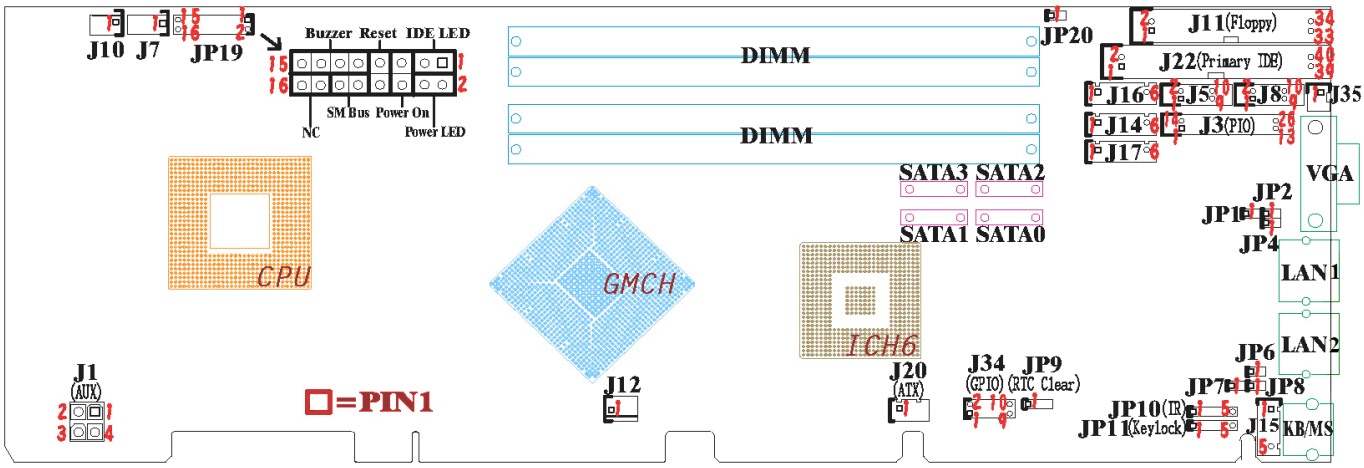


Figure 2-1: Jumper Location

2.5 Function of Jumper

Pin	Function
JP9	RTC Clear
J13	CF Card Master/Slave Select

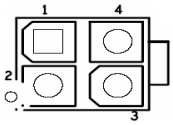
Remark: J13 (for CF socket) has been removed as an option

2.6 Connector and Pin Definition

(1) AUX +12V Power Connector (J1)

A. Connector size: ATX POWER CONN 2x2

B. Connector location



C. Connector pin definition

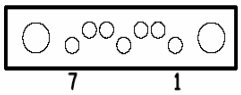
J1: AUX +12V Power Connector

Pin	Definition	Pin	Definition
1	GND	3	+12V
2	GND	4	+12V

(2) SATA3/SATA 2/SATA1/SATA0 connector (J2)(J4)(J6)(J9)

A. Connector size: 7 Pin, 1.27mm, 180°, SATA Connector

B. Connector location



C. Connector pin definition

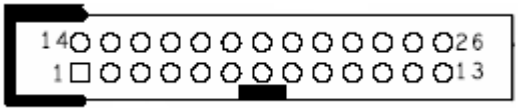
J2/J4/J6/J9: SATA3/SATA 2/SATA1/SATA0

Pin	Definition	Pin	Definition
1	GND	5	SATA_RXN
2	SATA_TXP	6	SATA_RXP
3	SATA_TXN	7	GND
4	GND		

(3) PIO Connector (J3)

A. Connector size: 2 X 13 = 26 Pin, 2.0 mm, 180° ,BOX Header

B. Connector location



C. Connector pin definition

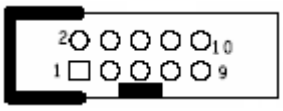
J3: PIO

Pin	Definition	Pin	Definition
1	Line Print Strobe	14	Auto Feed#
2	Parallel Data 0	15	Error#
3	Parallel Data 1	16	Initialize#
4	Parallel Data 2	17	Select Input#
5	Parallel Data 3	18	GND
6	Parallel Data 4	19	GND
7	Parallel Data 5	20	GND
8	Parallel Data 6	21	GND
9	Parallel Data 7	22	GND
10	Acknowledge#	23	GND
11	Busy	24	GND
12	Paper empty	25	GND
13	Select	26	NC

(4) SIO Connector COM1(J8),COM2(J5)

A. Connector size: 2 X 5 = 10 Pin, 2.0 mm, 180° ,BOX Header

B. Connector location



C. Connector pin definition

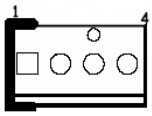
J5/J8: COM1/COM2

Pin	Definition	Pin	Definition
1	DCD	6	DSR
2	RXD	7	RTS
3	TXD	8	CTS
4	DTR	9	RI
5	GND	10	NC

(5) CPU FAN Connector (J7)

A. Connector size: 1 X 4 = 4 Pin, 2.54mm, 180°, FAN Connector

B. Connector location



C. Connector pin definition

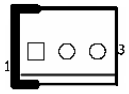
J7 : CPU FAN

Pin	Definition	Pin	Definition
1	GND	3	Sense
2	+12V	4	NC

(6) SYSTEM FAN1/FAN2 Connector (J10)/(J12)

A. Connector size: 1 X 3 = 3 Pin, 2.54mm, 180°, FAN Connector

B. Connector location



C. Connector pin definition

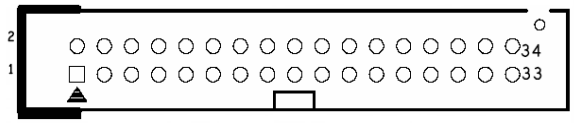
J10/J12: System FAN 1/ System FAN 2

Pin	Definition	Pin	Definition
1	GND	3	Sense
2	+12V		

(7) FLOPPY Connector (J11)

A. Connector size: 2 x 17 = 34 pins, 2.54 mm, 180° ,BOX Header

B. Connector location



C. Connector pin definition

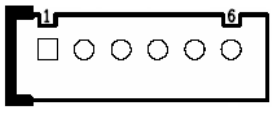
J11: Floppy

Pin	Definition	Pin	Definition
1	GND	18	DIR#
2	DENSEL#	19	GND
3	GND	20	STEP#
4	NC	21	GND
5	GND	22	Write Data#
6	NC	23	GND
7	GND	24	WGATE#
8	INDEX#	25	GND
9	GND	26	TK00#
10	MOTEA#	27	GND
11	GND	28	WPT#
12	DRVB#	29	GND
13	GND	30	Read Data#
14	DRVA#	31	GND
15	GND	32	SIDE1#
16	MOTEB#	33	GND
17	GND	34	DSKCHG#

(8) USB 2.0, 0/1/2/3/4/5 Connector USB01/1(J14),USB2/3(J16),USB4/5(J17)

A. Connector size: 1 X 6 = 6 Pin, 2.54mm, 180°, JST Connector

B. Connector location



C. Connector pin definition

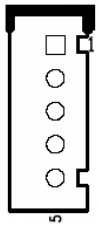
J14/J16/J17: USB 0/1/2/3/4/5

Pin	Definition	Pin	Definition
1	+5VSB	4	Data 1-/Data 3-/Data 5-
2	Data 0-/Data 2-/Data 4-	5	Data 1+/Data 3+/Data 5+
3	Data 0+/Data 2+/Data 4+	6	GND

(9) External Keyboard Connector (J15)

A. Connector size: 1 X 5 = 5 Pin, 2.54mm, 180°, JST Connector

B. Connector location



C. Connector pin definition

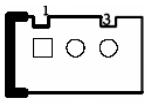
J15: External Keyboard

Pin	Definition	Pin	Definition
1	Keyboard Clock	4	GND
2	Keyboard Data	5	+5V
3	NC		

(10) ATX Connector (J20)

A. Connector size: 1 X 3 = 3 Pin, 2.54mm, 180°, JST Connector

B. Connector location



C. Connector pin definition

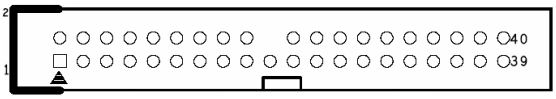
J20: ATX Connector

Pin	Definition	Pin	Definition
1	+5VSB	3	PSON#
2	GND		

(11) IDE Connector Primary IDE (J22)

A. Connector size: 2 x 20 = 40pins, 2.54mm, 180°,BOX Header

B. Connector location



C. Connector pin definition

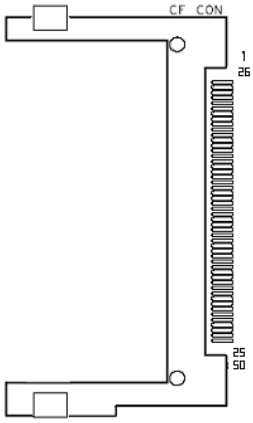
J22: Primary IDE

Pin	Definition	Pin	Definition
1	Reset#	21	DMA REQ
2	GND	22	GND
3	Data 7	23	IOW#
4	Data 8	24	GND
5	Data 6	25	IOR#
6	Data 9	26	GND
7	Data 5	27	IOCHRDY
8	Data 10	28	GND
9	Data 4	29	DMA ACK#
10	Data 11	30	GND
11	Data 3	31	Interrupt
12	Data 12	32	NC
13	Data 2	33	DiskAddress 1
14	Data 13	34	DMA66 Detect
15	Data 1	35	DiskAddress 0
16	Data 14	36	DiskAddress 2
17	Data 0	37	HDCCS1#
18	Data 15	38	HDCCS3#
19	GND	39	HDD Active #
20	NC	40	GND

(12) Compact Flash Connector (J25)

A. Connector size: Compact Flash Socket 50 Pin Connector

B. Connector location



C. Connector pin definition

J25: CF Card

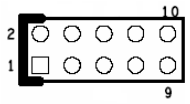
Pin	Definition	Pin	Definition
1	GND	26	GND
2	Data 3	27	Data 11
3	Data 4	28	Data 12
4	Data 5	29	Data 13
5	Data 6	30	Data 14
6	Data 7	31	Data 15
7	HDCCS1#	32	HDCCS3#
8	GND	33	N/C
9	GND	34	IOR#
10	GND	35	IOW#
11	GND	36	+5V
12	GND	37	Interrupt
13	+5V	38	+5V
14	GND	39	CF_CSEL#
15	GND	40	NC
16	GND	41	Reset#
17	GND	42	IOCHRDY
18	Disk Address 2	43	DMA REQ
19	Disk Address 1	44	DMA ACK#
20	Disk Address 0	45	HDD Active#
21	Data 0	46	DMA66 Dectec
22	Data 1	47	Data 8

23	Data 2	48	Data 9
24	NC	49	Data 10
25	GND	50	GND

(13) GPIO (J34)

A. Connector size: 2X4 = 8 PIN, 2.54mm, 180°, PIN Header

B. Connector location



C. Connector pin definition

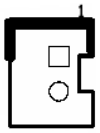
J34: GPIO

Pin	Definition	Pin	Definition
1	+5V	6	GP25_D_IN1 (PIN25)
2	GND	7	GP22_D_OUT2 (PIN22)
3	GP20_D_OUT0 (PIN20)	8	GP26_D_IN2 (PIN26)
4	GP24_D_IN0 (PIN24)	9	GP23_D_OUT3 (PIN23)
5	GP21_D_OUT1 (PIN21)	10	GP27_D_IN3 (PIN27)

(14) Disk On Module External Power (J35)

A. Connector size: 1X2 = 2 PIN, 2.54mm, 180°, JST Connector

B. Connector location



C. Connector pin definition

J35: Disk On Module External Power

Pin	Definition	Pin	Definition
1	+5V	2	GND

(15) 82573L LAN1 (JP6) / LAN2 (JP1) LINK 100LED

A. Connector size: 1X2 = 2 PIN, 2.54mm, 180° , PIN Header

B. Connector location

C . Connector pin definition

JP6/JP1: LAN1/LAN2 LINK 100LED

Pin	Definition	Pin	Definition
1	Speed1000#	2	Speed100#

(16) 82573L LAN1 (JP8) /LAN2 (JP2) LINK 1000LED

A. Connector size: 1X2 = 2 PIN, 2.54mm, 180°, PIN Header

B. Connector location

C. Connector pin definition

JP8/JP2: LAN1/LAN2 LINK 1000LED

Pin	Definition	Pin	Definition
1	Speed100#	2	Speed1000#

(17) 82573L LAN1 (JP7) /LAN2 (JP4) Activity LED

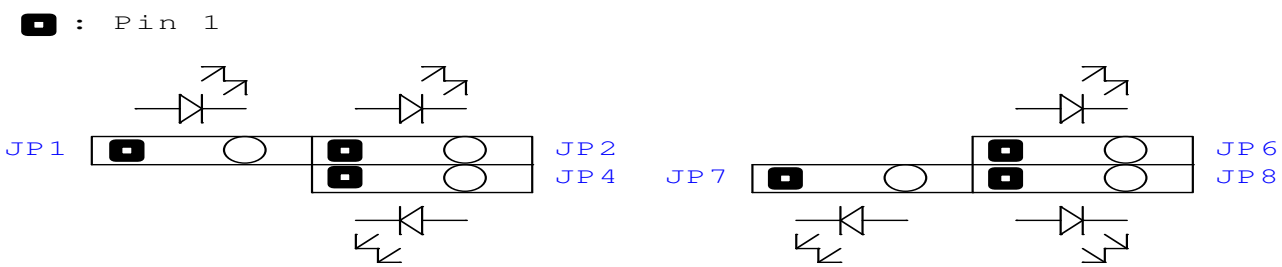
A. Connector size: 1X2 = 2 PIN, 2.54mm, 180° , PIN Header

B. Connector location

C. Connector pin definition

JP7/JP4: LAN1/LAN2 Activity LED

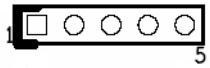
Pin	Definition	Pin	Definition
1	+3.3VSB	2	Activity#



(18) IR (JP10)

A. Connector size: 1X5 = 5 PIN, 2.54mm, 180°, PIN Header

B. Connector location



C. Connector pin definition

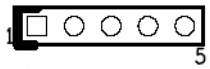
JP10: IR

Pin	Definition	Pin	Definition
1	+5V	4	GND
2	CIRRX	5	IRTX
3	IRRX		

(19) Keyboard Lock (JP11)

A. Connector size: 1X5 = 5 PIN, 2.54mm, 180°, PIN Header

B. Connector location



C. Connector pin definition

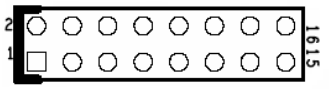
JP11: Keyboard Lock

Pin	Definition	Pin	Definition
1	+5V	4	Keyboard Lock
2	NC	5	GND
3	GND		

(20) IDE LED/POWER LED/POWER ON/RESET/BUZZER/SMBUS/ System Thermal (JP19)

A. Connector size: 2X8 = 16 PIN, 2.54mm, 180°, PIN Header

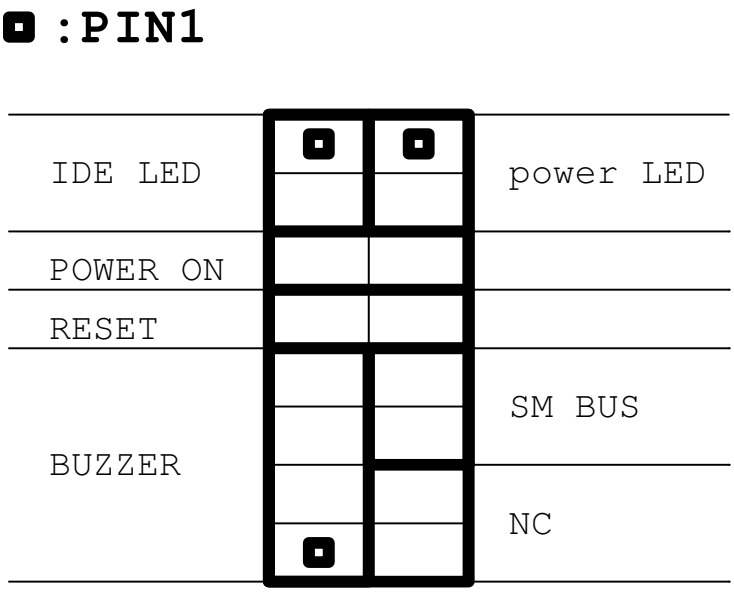
B. Connector location



C. Connector pin definition

JP19: IDE LED/POWER LED/POWER ON/RESET/BUZZER/SMBUS/System Thermal

Pin	Definition	Pin	Definition
1	+5V	9	Speaker
2	+5V	10	SMB_ Data
3	IDE_LED	11	GND
4	GND	12	SMB_ Clock
5	Power ON	13	GND
6	GND	14	NC
7	Reset	15	+5V
8	GND	16	NC



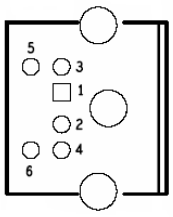
(21) System Thermal (JP20)

Pin	Definition
1	Thermal Pin
2	Thermal GND

(22) Key board + mouse Connector (CON4)

A. Connector size: MINI DIN 6 Pin Connector

B. Connector location



C .Connector pin definition

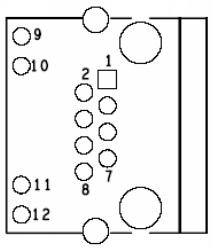
CON4: Key board + mouse Connector

Pin	Definition	Pin	Definition
1	Keyboard Data	4	+5VSB
2	Mouse Data	5	Keyboard Clock
3	GND	6	Mouse Clock

(23) 82573L LAN2 Connector/82573L LAN1 Connector (CON5)(CON6)

A. Connector size: RJ45 LAN Connector

B. Connector location



C. Connector pin definition

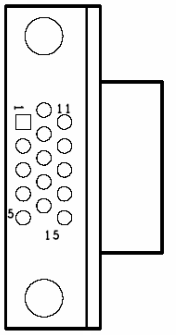
CON5/CON6: 82573L LAN1 Connector/82573L LAN2 Connector

Pin	Definition	Pin	Definition
1	MDI0P	7	MDI3P
2	MDI0N	8	MDI3N
3	MDI1P	9	ACTIVITY#
4	MDI2P	10	+5VSB
5	MDI2N	11	LINK100#
6	MDI1N	12	LINK1000#

(24) VGA Connector (CON7)

A. Connector size: VGA DSUB 15 Pin Connector

B. Connector location



C. Connector pin definition

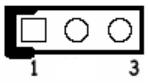
CON7: VGA connector

Pin	Definition	Pin	Definition
1	Red	9	+5V
2	Green	10	GND
3	Blue	11	NC
4	NC	12	DDC Data
5	GND	13	HSYNC
6	GND	14	VSYNC
7	GND	15	DDC Clock
8	GND		

(25) RTC Clear (JP9)

A. Connector size: 1X3 = 3 PIN, 2.54mm, 180° , PIN Header

B. Connector location



C. Connector pin definition

RTC Clear

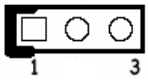
	Normal	Clear CMOS
JP9	*1-2	2-3

* = DEFAULT SET

(26) CF Card Master/Slave Select (J13)

A. Connector size: 1 X 3 = 3 PIN, 2.54mm, 180° , PIN Header

B. Connector location



C. Connector pin definition

CF Card Master/Slave Select

	Slave	Master
J13	1-2	*2-3

* = DEFAULT SET

Remark: J13 (for CF socket) has been removed as an option

3 PCI Device interrupt and BUS Assignments

Chipset	Configuration BUS/DEVIC/FUNCTION	PCI INT#	REQ# / GNT#	Special feature description
PCI Slot1	1 / 12,13,14,15 / 0	A,B,C,D	0,1,2,4	

4. System power consumption

Power supply must consumed watts and currents

Power Type	+12V	+5V	+5VSB
Consumed watts (Item: W)	144	76.77	5.27
Consumed currents (Item A)	12	15.35	1.05
Actually required currents (Item A/0.8)	15	20	1.5

Chapter 3
Expansion

3.1 System Memory

PEAK 760 incorporates Intel 915GV chipset supports dual channel non-ECC un-buffered DDR2 400/533 MHz memory up to 4GB. Four 240-pins DIMM sockets support up to a maximum 4GB DIMM. Followings are the recommended memory modules.

Size (MB)	Technology Type	Vendor	Remark
512MB	DDRII 533, 240 PIN, non ECC	A-DATA	*2PCS
512MB	DDRII 533,240 PIN, non ECC	UNIGEN	*2PCS
1GB	DDRII 533,240 PIN, non ECC	UNIGEN	*4PCS
1GB	DDRII 533,240 PIN, non ECC	APACER	*4PCS

Table 3.1: Recommended Memory Modules

3.2 Installing DIMM

To install DIMM

1. Make sure the two handles of the DIMM sockets are in the “open” position, i.e. the handles stay outward.

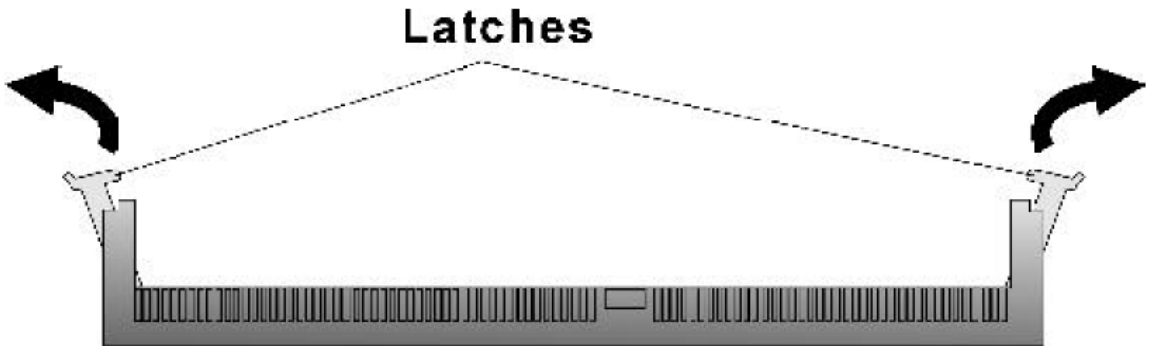


Figure3-1: How to Install DIMM (1)

2. Slowly slide the DIMM modules along the plastic guides in the both ends of the socket.

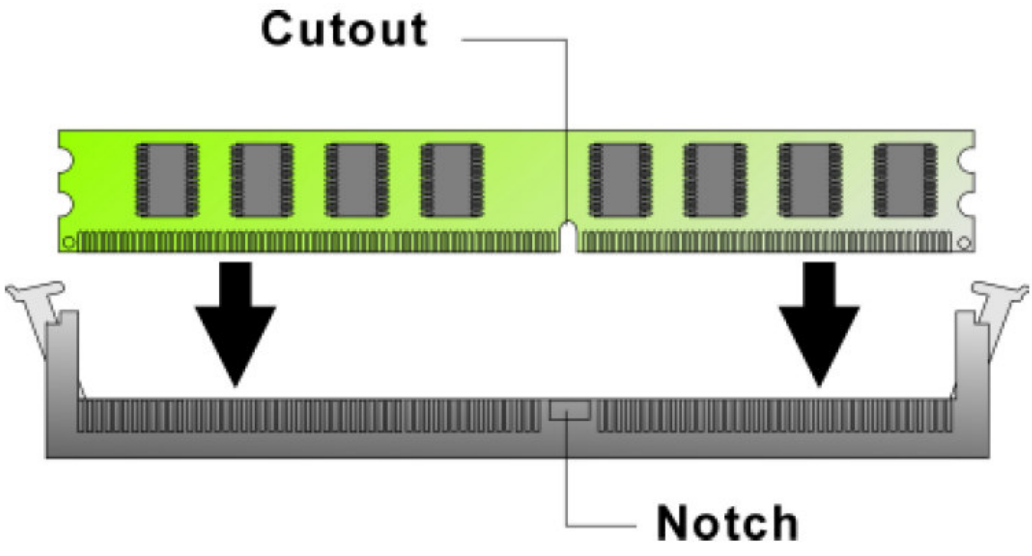


Figure 3-2: How to Install DIMM (2)

3. Then press the DIMM module down right into the socket, until a click is heard. That means the two handles automatically locked the memory modules into the right position of the DIMM socket.

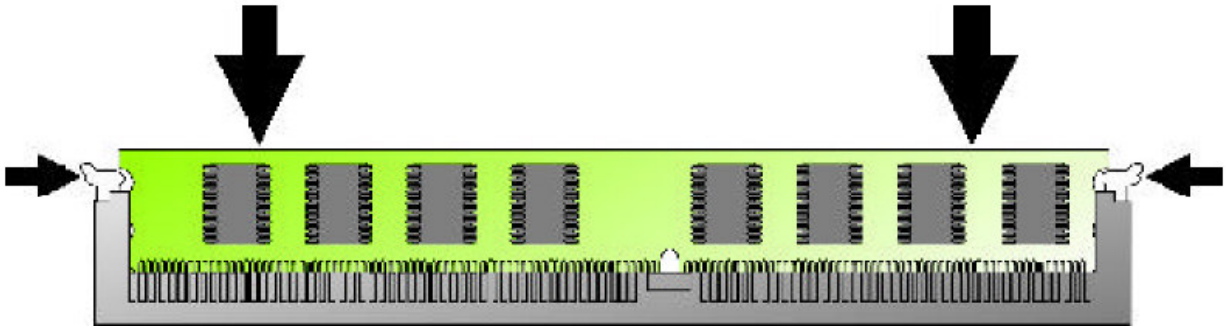


Figure 3-3: How to Install DIMM (3)

4. To take away the memory module, just push the both handles outward, the memory module will be ejected by the mechanism in the socket.

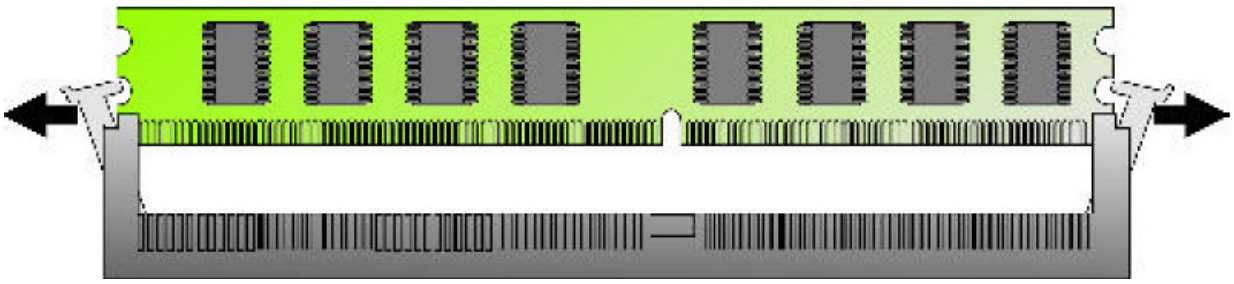


Figure 3-4: How to Install DIMM (4)

3.3 Installing Compact Flash

1. To install a Compact Flash memory card into PAEK 760, align the notches on the card with the Compact Flash socket in the PEAK 760. Then firmly insert the card into the socket until it is completely seated.

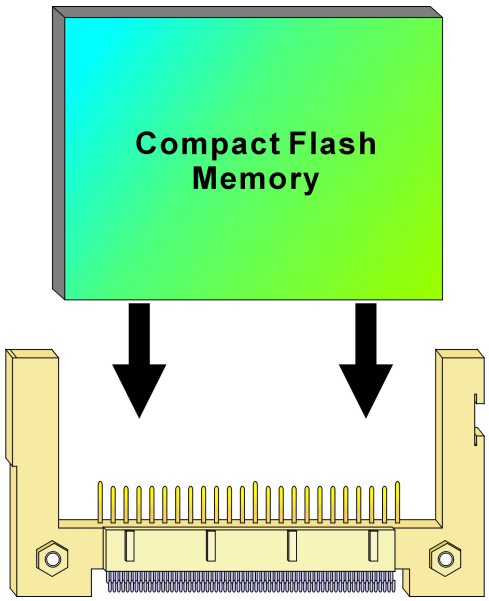


Figure 3-5: How to Install Compact Flash Memory (1)

2. To remove the Compact Flash memory card from PEAK 760, pull out the memory card from the Compact Flash socket.

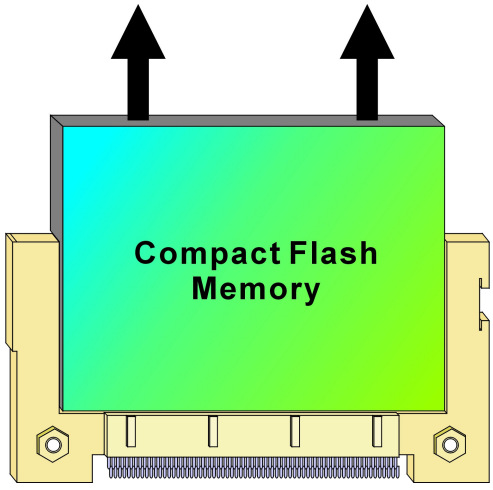


Figure 3-6: How to Uninstall Compact Flash Memory (2)

3.4 Installing socket LGA775 Intel Pentium-4 CPU, Heat Sink, and Fan

Since the socket 775 is comprised of sensitive arrays of pins, improper or careless installation may cause permanent harm to the CPU. In some cases users may accidentally damage the socket simply by adjusting the position of the CPU.

Please follow the installation instructions as shown below:

Step 1:

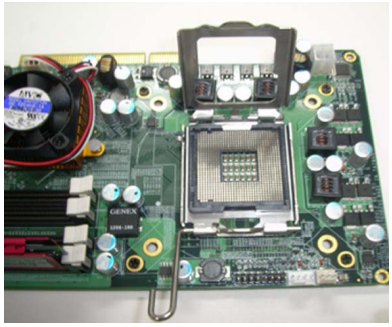
1. Opening the Socket:

a. Disengage the Load Lever by pressing down and out on the hook allowing the lever to clear the Retention Tab and rotate to the fully open position.

b. Rotate Load Plate to fully open position.

c. Remove the Protective Cover as shown below

Caution: Touch the Socket Contacts may damage to the contacts.

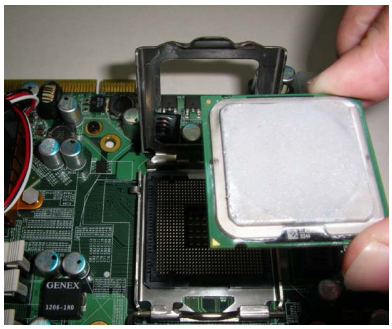


Step 2:

a. Remove processor from shipping media by grasping substrate edges only.

b. Grasp the processor with your thumb and forefinger on the edges with the orientation notches.

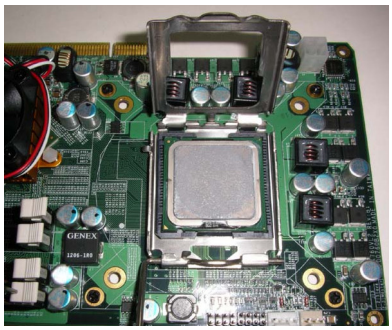
c. Carefully place the CPU into the socket.

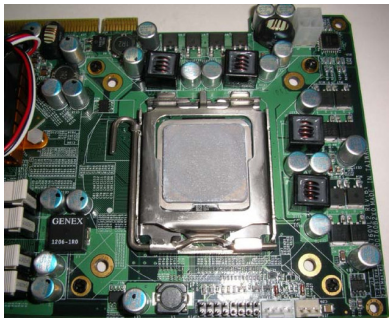


Step 3:

a. Verify that the CPU if properly mated to the orientation keys.

b. Close the upper plate, place the load lever back to the original position.





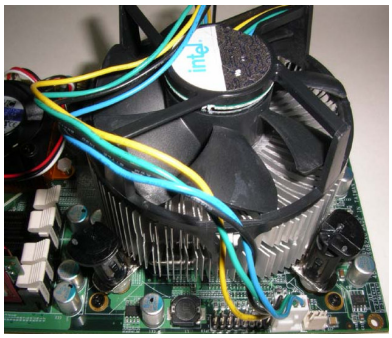
Step 4:

a. Place the Heat Sink with Fan Set onto the four holes around the CPU socket making sure that the four screws are aligned with the holes on the PEAK 760.

b. Pressing down the metal pads on the four Stand-Offs.

c. Fasten the four screws.

d. Connect the 4-pins CPU fan cable to the power connector as shown below.



Chapter 4
Award BIOS Setup

This chapter explains how to use the BIOS Setup program for the PEAK 760. The current BIOS setup pictures in the chapter are for reference only, which may change by the BIOS modification in the future. User can download any major updated items or reversion from NEXCOM web site http://www.nexcom.com.tw. If any unclear message occurs, please contact NEXCOM customer service representative for help or log onto http://www.nexcom.com.tw/contact/contact.htm.

4.1 About the BIOS

The BIOS (Basic Input and Output System) Setup program is a menu driven utility that enables you to make changes to the system configuration and tailor your system to suit your individual work needs. It is a ROM-based configuration utility that displays the system's configuration status and provides you with a tool to set system parameters. These parameters are stored in non-volatile battery-backed-up CMOS RAM that saves this information even when the power is turned off. When the system is turned back on, the system is configured with the values found in CMOS.

With easy-to-use pull down menus, you can configure such items as:

- ♦ Hard drives, diskette drives, and peripherals
- ♦ Video display type and display options
- ♦ Password protection from unauthorized use
- ♦ Power management features

The settings made in the Setup program intimately affect how the computer performs. It is important, therefore, the first thing is to try to understand all the Setup options, and secondly, to make settings appropriate for the way you use the computer.

4.2 When to Run BIOS

This program should be executed under the following conditions:

- ♦ When changing the system configuration
- ♦ When a configuration error is detected by the system and you are prompted to make changes to the Setup program
- ♦ When resetting the system clock
- ♦ When redefining the communication ports to prevent any conflicts
- ♦ When making changes to the Power Management configuration
- ♦ When changing the password or making other changes to the security setup

Normally, CMOS setup is needed when the system hardware is not consistent with the information contained in the CMOS RAM, whenever the CMOS RAM has lost power, or the system features need to be changed.

4.3 Entering Setup

When the system is powered on, the BIOS will enter the Power-On Self Test (POST) routines. These routines perform various diagnostic checks; if an error is encountered, the error will be reported in one of two different ways:

♦ If the error occurs before the display device is initialized, a series of beeps will be transmitted.

♦ If the error occurs after the display device is initialized, the screen will display the error message.

Powering on the computer and immediately pressing <Del> allows you to enter Setup. Another way to enter Setup is to power on the computer and wait for the following message during the POST:

TO ENTER SETUP BEFORE BOOT
PRESS <CTRL+ALT+DEL > KEY

Press the <Del> key to enter Setup:

4.4 The Main Menu

Once you enter Award BIOS CMOS Setup Utility, the Main Menu (Figure 1) will appear on the screen. The main menu allows you to select from ten setup functions and two exit choices. Use arrow keys to select among the items and press <Enter> to accept or enter the sub-menu.

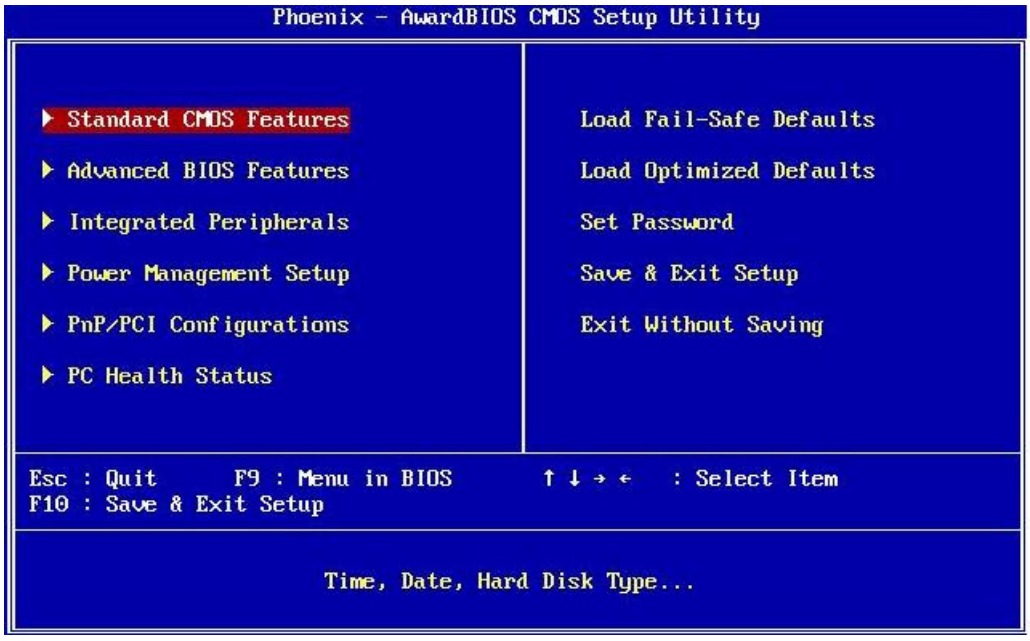


Figure 4-1: BIOS Setup Utility Main Menu

Standard CMOS Features
Use this menu for basic system configuration.

Advanced BIOS Features
Use this menu to set the Advanced Features available on the system.

Integrated Peripherals
Use this menu to specify your settings for integrated peripherals.

Power Management Setup
Use this menu to specify your settings for power management.

PnP/PCI Configurations
This entry appears if your system supports Plug and Play and PCI Configuration.

PC Health Status
Displays CPU, System Temperature, Fan Speed, and System Voltages Value.

Load Fail-Safe Defaults
Use this menu to load the BIOS default values for the minimal/stable performance for your system to operate.

Load Optimized Defaults
Use this menu to load the BIOS default values, i.e., factory settings for optimal performance system operations. While Award has designed the custom BIOS to maximize performance, the factory has the option to change these defaults to meet their needs.

Set Password
Enables you to change, set, or disable the supervisor or user password.

Save & Exit Setup
Saves CMOS value changes to CMOS and exits setup

Exit Without Saving
Ignores all CMOS value changes and exits setup.

4.5 Getting Help

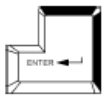
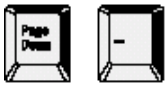
Main Menu

The on-line description of the highlighted setup function is displayed at the bottom of the screen.

Status Page Setup Menu/Option Page Setup Menu

4.6 Control Keys

The table below lists the keys that help you navigate the setup program.

Up arrow		Move to previous item
Down arrow		Move to next item
Left arrow		Move to the item to the left
Right arrow		Move to the item to the right
Esc key		Main Menu: Quit without saving changes to CMOS Status/Option Page Setup Menus: Exit current page and return to Main Menu.
Enter Key		Select or Accept an Item
PgUp/plus key		Increase the numeric value or make changes
PgDn/minus key		Decrease the numeric value or make changes
F1 key		General help, only for Status Page Setup Menu and Option Page Setup Menu
F2/Shift + F2 key		Change color from total 16 colors. F2 to select color forward, (Shift) F2 to select color backward
F5 key		Restore the previous CMOS value from CMOS (only for Option Page Setup Menu)
F6 key		Load the default CMOS value from BIOS default table (only for Option Page Setup Menu)
F7 key		Load the Setup default value (only for Option Page Setup Menu)
F9 Key		Menu in BIOS
F10 key		Save all the CMOS changes (only for Main Menu)

4.7 Standard CMOS Features

Selecting Standard CMOS Features on the main program screen displays the following menu:

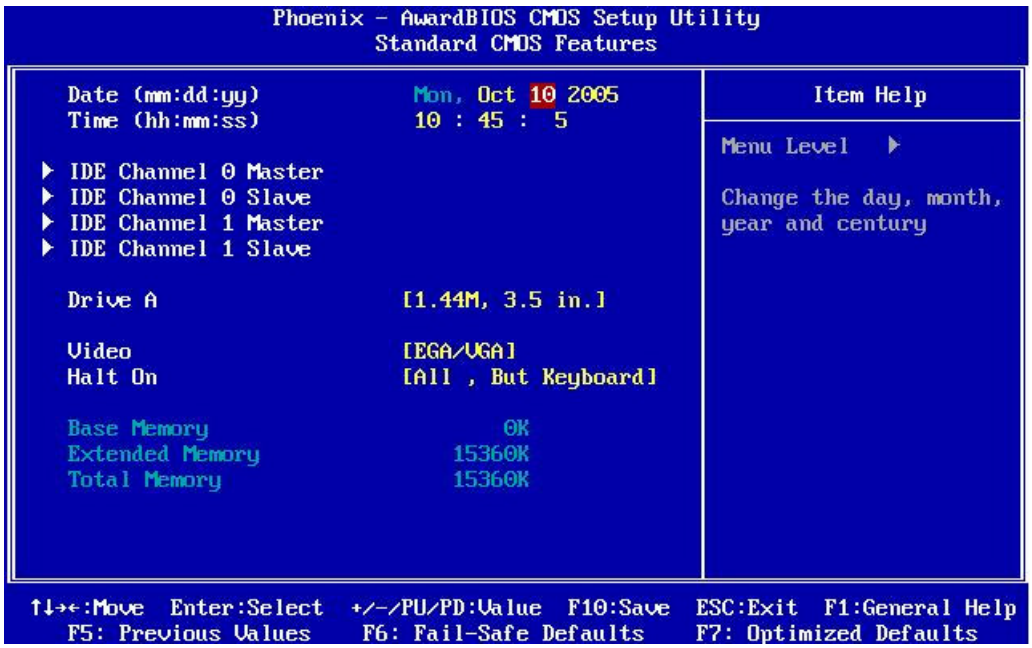

Phoenix - AwardBIOS CMOS Setup Utility
Standard CMOS Features
Date (mm:dd:yy) Mon, Oct 10 2005
Time (hh:mm:ss) 10 : 45 : 5
IDE Channel 0 Master
IDE Channel 0 Slave
IDE Channel 1 Master
IDE Channel 1 Slave
Drive A [1.44M, 3.5 in.]
Video [EGA/VGA]
Halt On [All , But Keyboard]
Base Memory 0K
Extended Memory 15360K
Total Memory 15360K
Item Help
Menu Level
Change the day, month, year and century
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

Figure 4-2: BIOS – Standard CMOS Features

The Standard CMOS Setup utility is used to configure the following features:

Date (mm:dd:yy)

The BIOS determines the day of the week from the other data information. This field is for information only. Press the left or right arrow key to move to the desired field (date, month, year). Press the PgUp or PgDn key to increment the setting, or type the desired value into the field.

Time (hh:mm:ss)

The time format is based on the 24-hour military time clock. For example, 1 p.m. is 13:00:00. Press the left or right arrow key to move to the desired field. Press the PgUp or Pg Dn key to increment the setting, or type the desired value into the field.

IDE Devices (Primary/Secondary Master/Slave)

Your computer has two IDE channels (Primary and Secondary) and each channel can be installed with one or two devices (Master and Slave). Use these items to configure each device on the IDE channel. If you leave this item at Auto, the system will automatically detect and configure any IDE devices it finds. If it fails to find a hard disk, change the value to Manual and then manually configure the drive by entering the characteristics of the drive in the items below:

- ♦ Capacity Approximate hard disk drive capacity
- ♦ Cylinder Number of cylinders
- ♦ Head Number of heads

♦ Precomp Write pre-compensation cylinder
♦ Landing Zone Landing zone
♦ Sector Number of sector

Refer to your drive's documentation or look on the drive if you need to obtain this information. If no device is installed, change the value to None.

Drive A

Select this field to the type of floppy disk drive installed in your system. The choices are:

♦ None: No floppy drive installed
♦ 360K, 5.25 in: 5-1/4 inch PC type standard drive; 360 kilobyte capacity
♦ 1.2M, 5.25 in: 5-1/4 inch AT-type high-density drive; 1.2 megabyte capacity
♦ 720K, 3.5 in: 3-1/2 inch double-sided drive; 720 kilobyte capacity
♦ 1.44M, 3.5 in: 3-1/2 inch double-sided drive; 1.44 megabyte capacity
♦ 2.88M, 3.5 in: 3-1/2 inch double-sided drive; 2.88 megabyte capacity

Note: The None option could be used for diskless workstations.

Video

Set this field to the type of graphics card installed in your system. If you are using a BGA or higher resolution card, choose the EGA/VGA option. The options are:

♦ EGA/VGA Enhanced Graphics Adapter/Video Graphics Array. For EGA, VGA, SEGA or PGA monitor adapters
♦ CGA40 Color Graphics Adapter, power up in 40 column mode
♦ CGA80 Color Graphics Adapter, power up in 80 column mode
♦ MONO Monochrome adapter, includes high resolution monochrome adapters

Halt On

During the Power-On Self-Test (POST), the computer stops if the BIOS detect a hardware error. This setting determines which type of error will cause the system to halt during boot. The options are:

♦ All Error: Whenever the BIOS detects a non-fatal error, the system will be stopped and you will be prompted.
♦ No Errors: The system boot will not stop for any error that may be detected.
♦ All, But Keyboard: The system boot will not stop for a keyboard error, but it will stop for all others.

After you have made your selections in the Standard CMOS Setup screen, press <ESC> to go back to the main screen.

4.8 Advanced BIOS Features

Selecting Advanced BIOS Feature on the main program screen displays this menu, which allows you to define advanced information about your system. You can make modifications to most of these items to improve your system performance or set up system features according to your preference, without causing fatal errors to your system. (Remark: :CPU L3 Cache" shown below is not available)

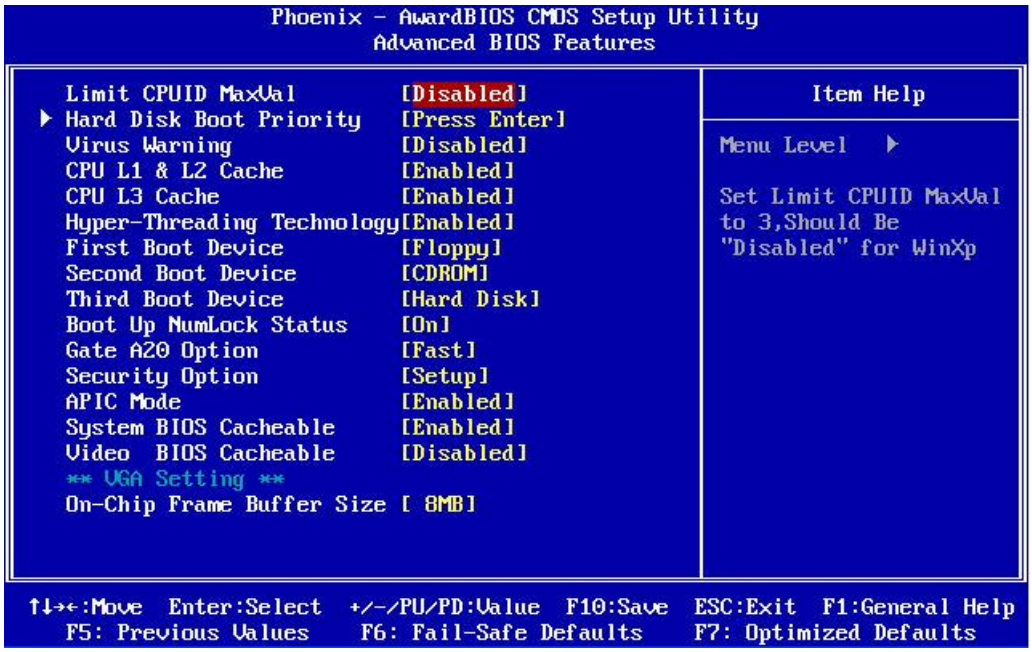

Phoenix - AwardBIOS CMOS Setup Utility
Advanced BIOS Features
Limit CPUID MaxVal [Disabled]
Hard Disk Boot Priority [Press Enter]
Virus Warning [Disabled]
CPU L1 & L2 Cache [Enabled]
CPU L3 Cache [Enabled]
Hyper-Threading Technology [Enabled]
First Boot Device [Floppy]
Second Boot Device [CDROM]
Third Boot Device [Hard Disk]
Boot Up NumLock Status [On]
Gate A20 Option [Fast]
Security Option [Setup]
APIC Mode [Enabled]
System BIOS Cacheable [Enabled]
Video BIOS Cacheable [Disabled]
** VGA Setting **
On-Chip Frame Buffer Size [8MB]
Item Help
Menu Level
Set Limit CPUID MaxVal to 3,Should Be "Disabled" for WinXp
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

Figure 4-3: BIOS – Advanced BIOS Features

The following explains the options for each feature:

Virus Warning

Allow you to choose the Virus Warning feature for IDE Hard Disk boot sector protection. If this function is enabled and someone attempts to write data into this area, BIOS will show a warning message on screen and an alarm will beep.

♦ Enabled: Activates automatically when the system boots up causing the following warning message to appear when anything attempts to access the boot sector or hard disk partition table:

> !WARNING!
> Disk boot sector is to be modified
> Type "Y" to accept write or "N" to abort write
> Award Software, Inc.

♦ Disabled: No warning message will appear when an attempt is made to access the boot sector or hard disk partition table.

Note: This function is available only for DOS and other operating systems that do not trap INT13. For complete protection against viruses, install virus software in your operating system and update the virus definitions regularly.
Many disk diagnostic programs that access the boot sector table can trigger the virus warning message. If you plan to run such a program, we recommend that you disable the virus warning.

CPU L1, L2 and L3 Cache

Cache memory is an additional memory that is much faster than conventional DRAM (system memory). This BIOS feature is used to enable or disable the processor's Level 1, Level 2 and Level 3 cache. Naturally, the default and recommended setting is Enabled.

Note: This field will be available only if your CPU supports this function.

First/Second/Third Boot Device

BIOS attempts to load the operating system from the devices in the sequence selected. The available choices are: Floppy, HDD-0, SCSI, CDROM, HDD-1, HDD-2, HDD-3, USB-FDD, USBZIP, USB-CDROM, USB-HDD, LAN, and Disabled.

Boot Up NumLock Status

Toggle between On or Off to control the state of the NumLock key when the system boot. If On, the numeric keypad is in numeric mode. If Off, the numeric keypad is in cursor control mode.

Gate A20 Option

Gate A20 refers to the way the system addresses memory above 1MB (extended memory). This feature enables you to select whether the chipset or the keyboard controller should control Gate A20. The options are:

- **Normal:** A pin in the keyboard controller controls Gate A20
- **Fast:** Let system chipsets control Gate A20. The fast setting improves system speed, particularly with OS/2 and windows.

Security Option

Enables you to select whether the password is required every time the system boots or only when you enter Setup.

- **System:** The system will not boot and access to Setup will be denied if the correct password is not entered at the prompt.
- **Setup:** The system will boot, but access to Setup will be denied if the correct password is not entered at setup.

4.9 Integrated Peripherals

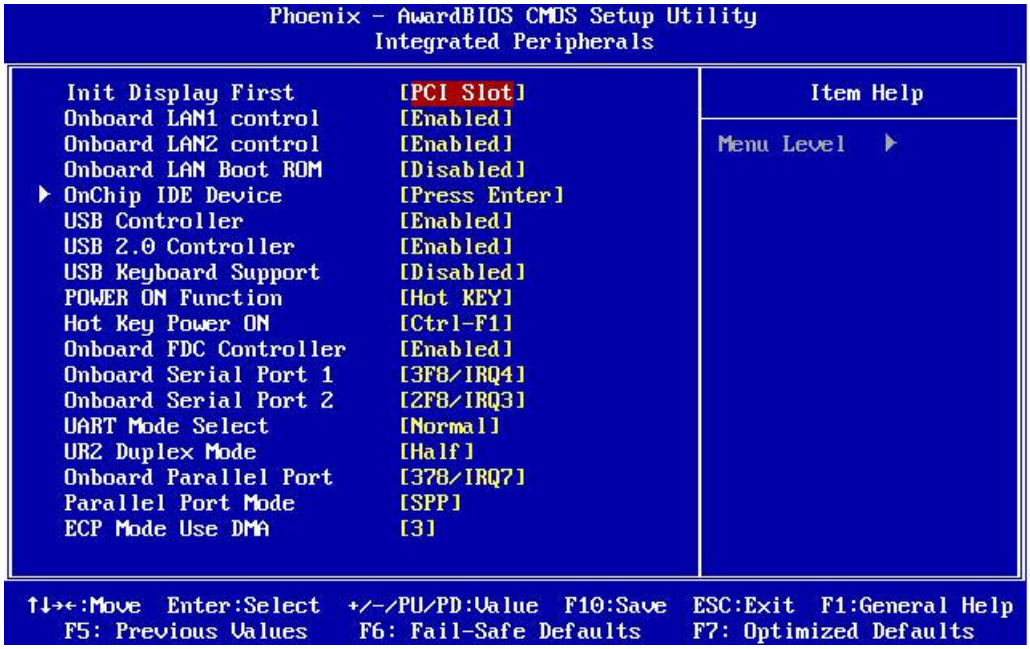

Phoenix - AwardBIOS CMOS Setup Utility
Integrated Peripherals
Init Display First [PCI Slot]
Onboard LAN1 control [Enabled]
Onboard LAN2 control [Enabled]
Onboard LAN Boot ROM [Disabled]
OnChip IDE Device [Press Enter]
USB Controller [Enabled]
USB 2.0 Controller [Enabled]
USB Keyboard Support [Disabled]
POWER ON Function [Hot KEY]
Hot Key Power ON [Ctrl-F1]
Onboard FDC Controller [Enabled]
Onboard Serial Port 1 [3F8/IRQ4]
Onboard Serial Port 2 [2F8/IRQ3]
UART Mode Select [Normal]
UR2 Duplex Mode [Half]
Onboard Parallel Port [378/IRQ7]
Parallel Port Mode [SPP]
ECP Mode Use DMA [3]
Item Help
Menu Level
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

Figure 4-4: BIOS – Integrated Peripherals

OnChip IDE Device

Select this item to setup the IDE device features. When you select this item, the following menu shows:

USB Controller

Select Enabled if your system contains a Universal Serial Bus controller.

USB 2.0 Controller

Select Enabled if your system contains a Universal Serial Bus 2.0 controller and you have USB 2.0 peripherals.

USB Keyboard Support

Select Enabled if your USB controller is enabled and it needs USB keyboard support in legacy (old) OS operating systems such as DOS.

Power ON Function

This feature allows you to select Hot Key or Button Only for Power ON function.

Hot Key Power ON

This feature allows you to select Hot Key Power ON function from Ctrl-F1 to Ctrl-F12.

Init Display First

This feature allows you to select whether to boot the system using the onboard AGP graphics card or the

PCI graphics card.

Onboard LAN 1/2 H/W Active

Enables and disables the onboard LAN modules.

Onboard FDC Controller

Select Enabled if your system has a floppy disk controller (FDC) installed on the system board and you wish to use it. If you install an add-in FDC or the system has no floppy drive, select Disabled to this field.

Onboard Serial Ports (1, 2)

This feature allows you to manually select the I/O address and IRQ for the first and second serial ports. It is recommended that you leave it as Auto so that the BIOS can select the best settings for it. But if you need a particular I/O port or IRQ that's been taken up by this serial port, you can manually select an alternative I/ O port or IRQ for it. You can also disable this serial port if you do not need to use it. Doing so frees up the I/O port and IRQ used by this serial port. Those resources can then be reallocated for other devices to use.

UART Mode Select

Select an operating mode for the serial port.
The choices are: Normal, IrDA, ASKIR.

UR2 Duplex Mode

In an infrared port mode, this field appears. Full-duplex mode permits simultaneous two-direction transmission. Half-duplex mode permits transmission in one direction only at a time. Select the value required by the IR device connected to the IR port.

Onboard Parallel Port

This feature allows you to select the I/O address and IRQ for the onboard parallel port. The default I/O address of 378h and IRQ of 7 should work well in most cases. Unless you have a problem with the parallel port, you should leave it at the default settings. The choices: 378/IRQ7, 278/IRQ5, 3BC/IRQ7, and Disabled.

Parallel Port Mode

Select an operating mode for the onboard parallel (printer) port. There are four options: SPP (Standard Parallel Port), EPP (Enhanced Parallel Port), ECP (Extended Capabilities Port) and ECP+EPP.

ECP Mode Use DMA

When the on-board parallel port is set to ECP mode, the parallel port can use DMA3 or DMA1.

4.10 Power Management Setup

This option lets you control system power management. The system has various power-saving modes including powering down the hard disk, turning off the video, and software power down that allows the system to be automatically resumed by certain events.

The power-saving modes can be controlled by timeouts. If the system is inactive for a time, the timeouts begin counting. If the inactivity continues so that the timeout period elapses, the system enters a power saving mode. If any item in the list of Reload Global Timer Events is enabled, then any activity on that item will reset the timeout counters to zero.

If the system is suspended or has been powered down by software, it can be resumed by a wake up call that is generated by incoming traffic to a modem, a LAN card, a PCI card, or a fixed alarm on the system realtime clock. Selecting Power Management Setup on the main program screen displays this menu:

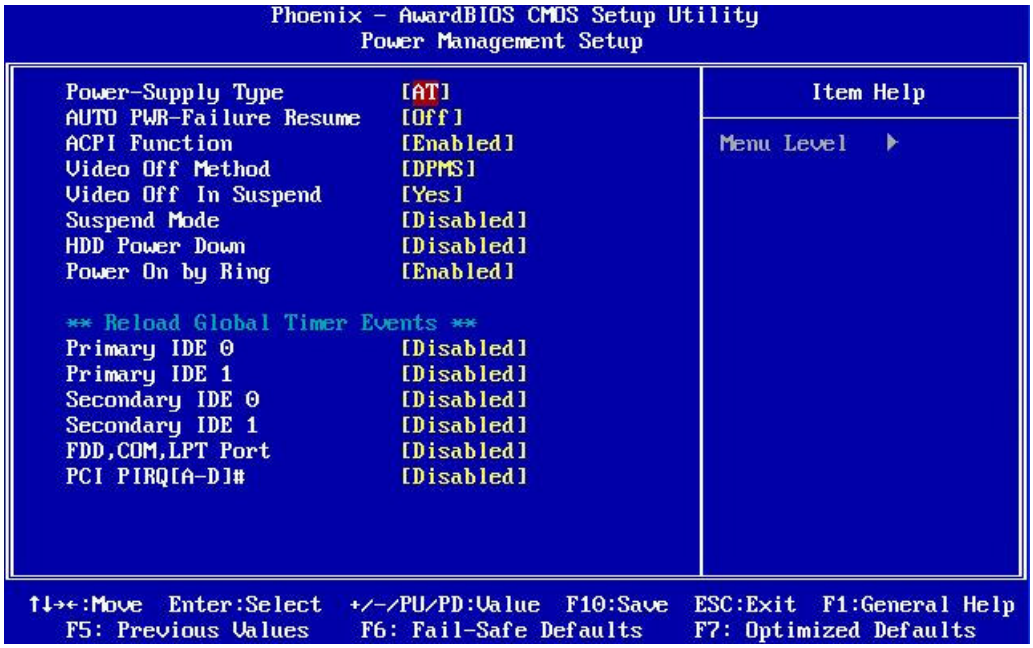

Phoenix - AwardBIOS CMOS Setup Utility
Power Management Setup
Power-Supply Type [AT]
AUTO PWR-Failure Resume [Off]
ACPI Function [Enabled]
Video Off Method [DPMS]
Video Off In Suspend [Yes]
Suspend Mode [Disabled]
HDD Power Down [Disabled]
Power On by Ring [Enabled]
** Reload Global Timer Events **
Primary IDE 0 [Disabled]
Primary IDE 1 [Disabled]
Secondary IDE 0 [Disabled]
Secondary IDE 1 [Disabled]
FDD,COM,LPT Port [Disabled]
PCI PIRQ[A-D]# [Disabled]
Item Help
Menu Level
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

Figure 4-5: BIOS – Power Management Setup

ACPI Function

The ACPI standard (Advanced Configuration and Power Interface) allows the operating system directly to check the functions of energy saving and the PnP (Plug and Play) functionality. The ACPI functions are normally activated by the BIOS. The choices are: Enabled and Disabled.

Video Off Method

This determines the manner in which the monitor is blanked. There are three choices:

1. V/H SYNC+Blank: This selection will cause the system to turn off the vertical and horizontal synchronization port and write blanks to the video buffer.
2. Blank Screen: This option only writes blanks to the video buffer.
3. DPMS Support: Select this option if your monitor supports the Display Power Management signaling (DPMS) standard of the Video Electronics Standard to select video power management values.

Video Off In Suspend

This determines the manner in which the monitor is blanked. The choices: Yes, No.

Suspend Mode

After the selected period of system inactivity, all devices except the CPU shut off. The choices are 1~2 min, 2~3 min,…. Up to 1 hour.

HDD Power Down

After the selected period of drive inactivity, the hard disk drive powers down while all other devices remain active.

Power On by Ring

This feature allows you to enable or disable Power On by Ring.

Reload Global Timer Events

Primary/Secondary IDE 0/1
FDD, COM, LPT Port
PCI PIRQ [A-D]#

The events are I/O events whose occurrence can prevent the system from entering a power saving mode or can awaken the system from such a mode. In effect, the system remains alert for anything, which occurs to a device, which is configured as Enabled, even when the system is in a power down mode. The choices are Enabled, and Disabled.

After you have made your selections in the Power Management setup, press the <ESC> key to go back to the main program screen.

4.11 PnP/PCI Configurations

This section describes configuring the PCI bus system. Peripheral Component Interface is a system, which allows I/O devices to operate at speeds nearing the speed the CPU itself, uses when communicating with its own special components. This section covers some very technical items and it is strongly recommended that only experienced users should make any changes to the default settings.
Selecting PnP/PCI Configurations on the main program screen displays this menu:

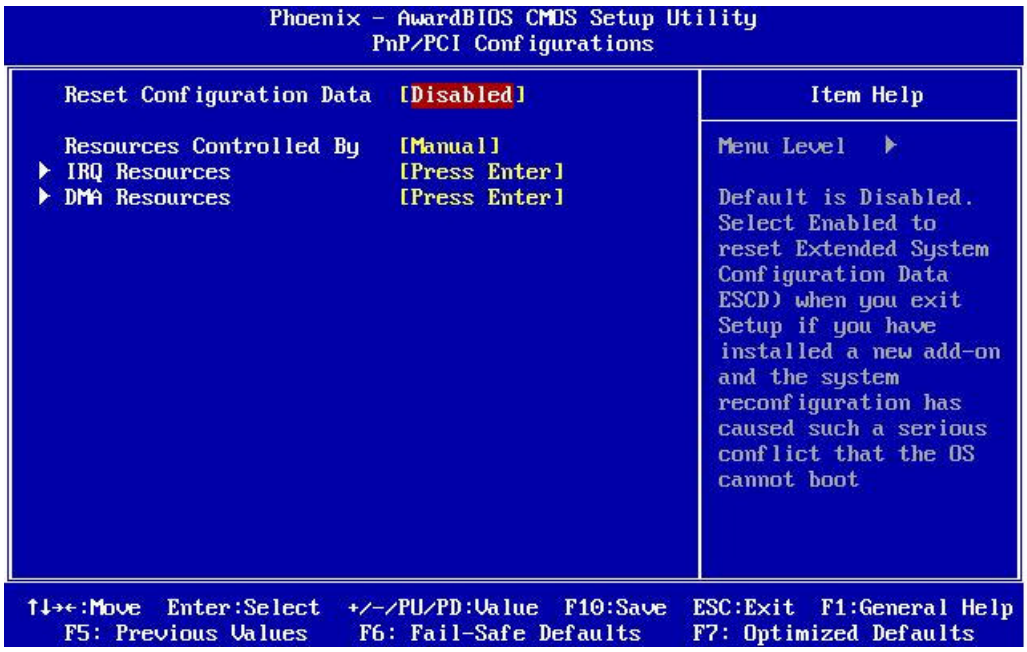

Phoenix - AwardBIOS CMOS Setup Utility
PnP/PCI Configurations
Reset Configuration Data [Disabled]
Resources Controlled By [Manual]
IRQ Resources [Press Enter]
DMA Resources [Press Enter]
Item Help
Menu Level
Default is Disabled. Select Enabled to reset Extended System Configuration Data ESCD) when you exit Setup if you have installed a new add-on and the system reconfiguration has caused such a serious conflict that the OS cannot boot
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

Figure 4-6: BIOS – PnP/PCI Configurations

Reset Configuration Data

Normally, you leave this field Disabled, Select Enabled to reset Extended System Configuration Data (ESCD) when you exit Setup if you have installed a new add-on Card and the system reconfiguration has caused such a serious conflict that the operating system cannot boot. The choices are Enabled and Disabled.

Resources Controlled By

The Award Plug and Play BIOS has the capacity to automatically configure all of the boot and Plug and Play compatible devices. However, this capability means absolutely nothing unless you are using a Plug and Play operating system such as going into each of the submenus that follows this field. The choices are Auto (ESCD), Manual.

4.12 PC Health Status

When main boards support hardware monitoring, this item lets you monitor the parameters for critical voltages, critical temperatures, and fan speeds. These are the read only items.
After you have read the PC Health Status, press the <ESC> key to go back to the main program screen.

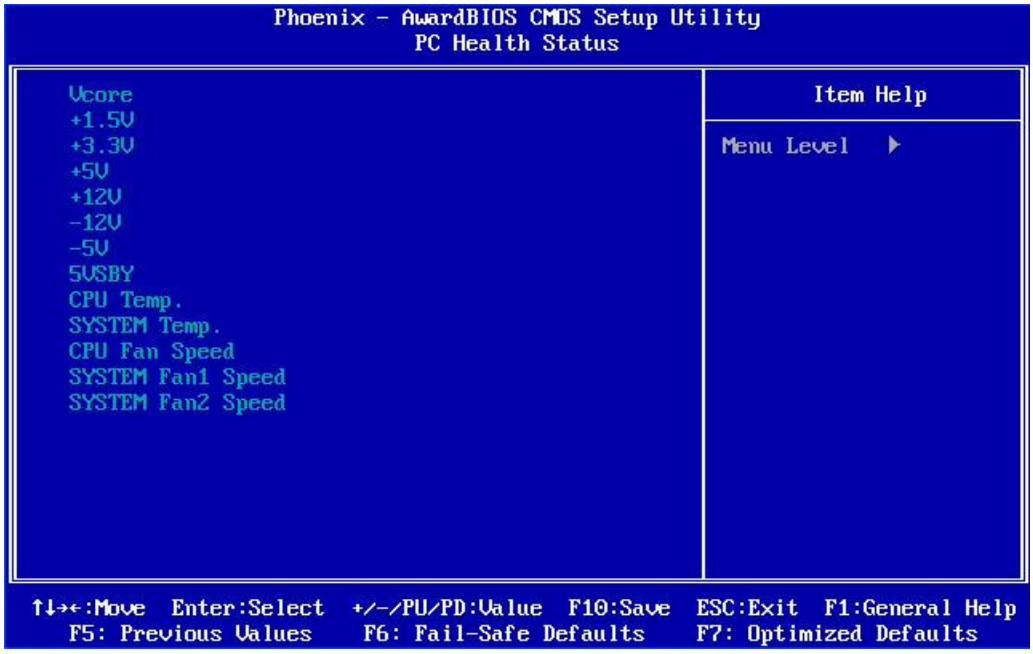


Figure 4-7: PC Health Status

4.13 Load Fail-Safe Defaults

This option opens a dialog box that lets you install fail-safe defaults for all appropriate items in the whole setup utility. Press the <Y> key and then <Enter> to install the defaults. Press the <N> key and then <Enter> to not install the defaults.
Use this option if you have changed your system and it does not operate correctly or does not power up.

4.14 Load Optimized Defaults

This option opens a dialog box that lets you install optimized defaults for all appropriate items in the whole setup utility. Press the <Y> key and then <Enter> to install the defaults. Press the <N> key and then <Enter> to not install the defaults. The optimized defaults place demands on the system that may be greater than the performance level of the components, such as the CPU and the memory. You can cause fatal errors or instability if you install the optimized defaults when your hardware does not support them. If you only want to install setup defaults for a specific option, select and display that option, and then press the <F7> key.

4.15 Set Password

The User Password utility sets the password. The main board is shipped with the password disabled. If you want to change the password, you must first enter the current password, then at the prompt enter your new password. The password is case sensitive. You can use up to eight alphanumeric characters. Press <Enter> after entering the password. At the next prompt, confirm the new password by retyping it and pressing <Enter> again.
To disable the password dialog box appears. A message appears confirming that the password has been disabled. If you have set supervisor and user Password, only the supervisor password allows you to enter the BIOS setup program.

Note: If you forget your password, the only way to solve this problem is to discharge the CMOS memory by **turning power off and placing a shunt (jumper cap) on jumper JP2 to short pin 2 and pin 3 for five seconds, then putting the shunt back to pin 1 and pin 2 of JP2.**

4.16 Save & Exit Setup

Selecting this option and pressing <Enter> will save the new setting information in the CMOS memory and continue with the booting process.

4.17 Exit Without Saving

Selecting this option and pressing <Enter> will exit the Setup utility without recording any new values or changing old ones.

Chapter 5
Driver Installation

The PEAK-760 comes with bundled drivers CD that enables you to install Intel chipset, VGA, LAN and so on. These drivers may be updated or re-versioned without any further notice. Please visit NEXCOM web site http://www.nexcom.com.tw frequently for new information.

Note: The installation instructions in this manual are based on Windows 2000 operation system.

5.1 Installation CD

Please follow the below instructions to find Intel chipset, LAN, VGA, and other drivers if any in the driver CD to implement installation.

Step 5.1.1
Place the Driver CD into your CD-ROM drive.
Open My Computer on your desktop.
My computer menu appears.
Double click your CD-ROM drive to open.

5.2 Installing Drivers for the Peak 760

The following sections show the driver installation procedures for Intel chipset, VGA, and LAN under Windows 2000.
When installing the Windows drivers, we recommend the following steps:
1. Fully install the Windows properly before installing any drivers. Most of the standard I/O devices' driver will be installed during the standard Windows installation.
2. Install the chipset driver.
3. Install the graphic driver and utilities.
4. Install the LAN drivers.
It is recommended that the chipset, graphic, and LAN drivers provided on the Nexcom CD be used to ensure compatibility.

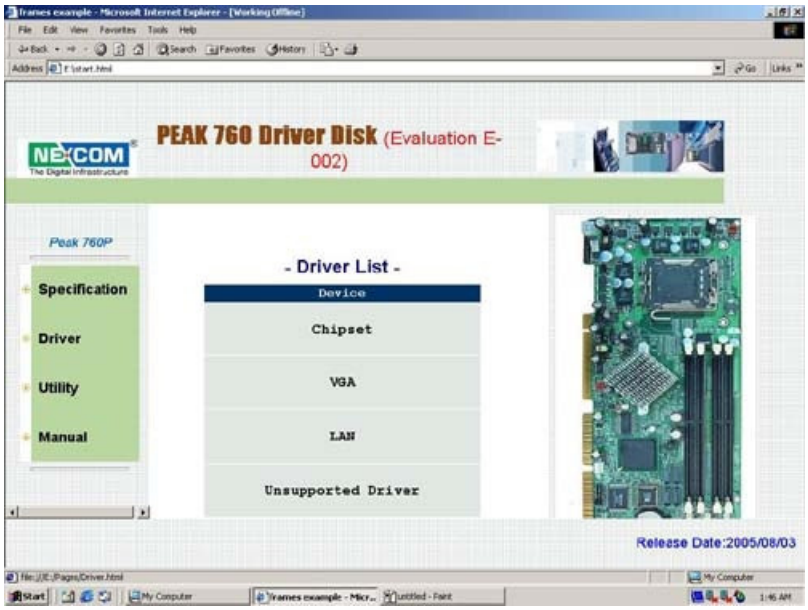
Note: You should install the Intel chipset patch before installing other drivers.
You may be prompted for your Windows Installation CD during setup.

5.3 Installing Intel Chipset

The chipset patch updates the chipset and enables user to adjust the advanced chipset components.

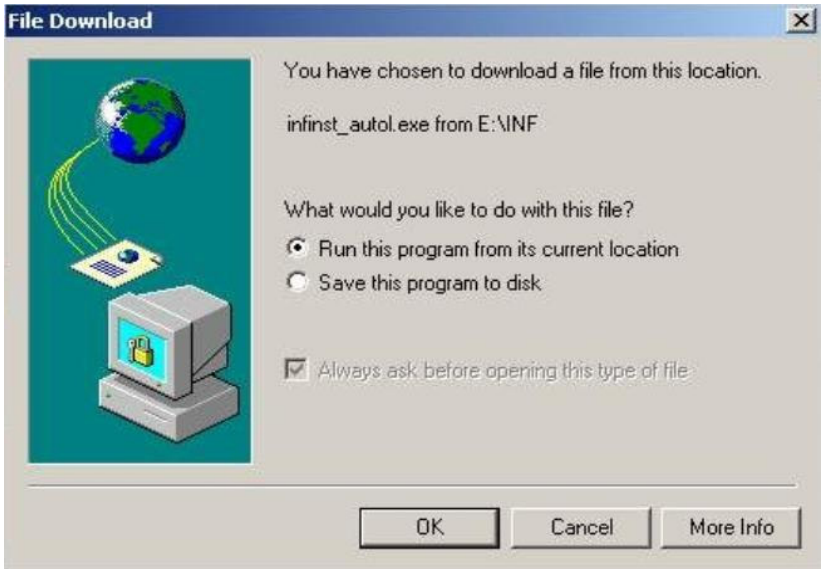
Step 5.3.1

Select the **Chipset** folder and double-click to open it



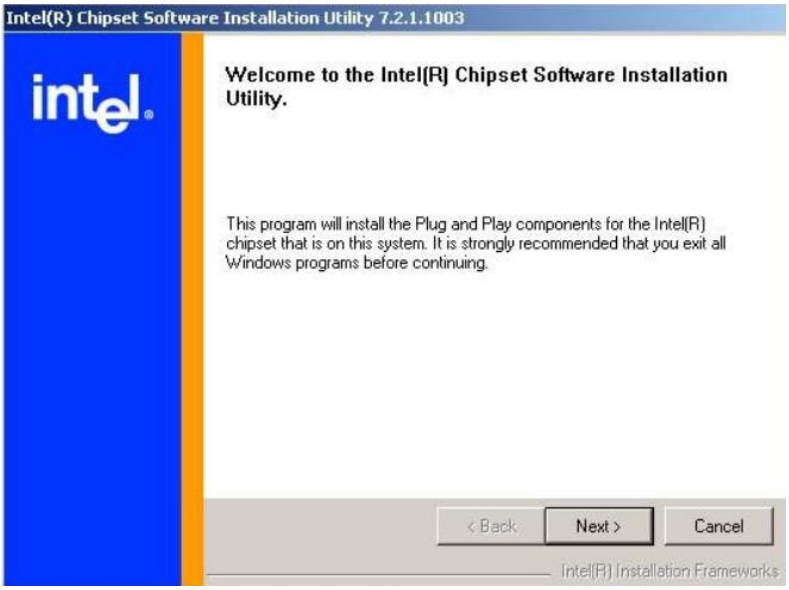
Step 5.3.2

Click **OK**


File Download
You have chosen to download a file from this location.
infinst_autol.exe from E:\INF
What would you like to do with this file?
Run this program from its current location
Save this program to disk
Always ask before opening this type of file
OK
Cancel
More Info

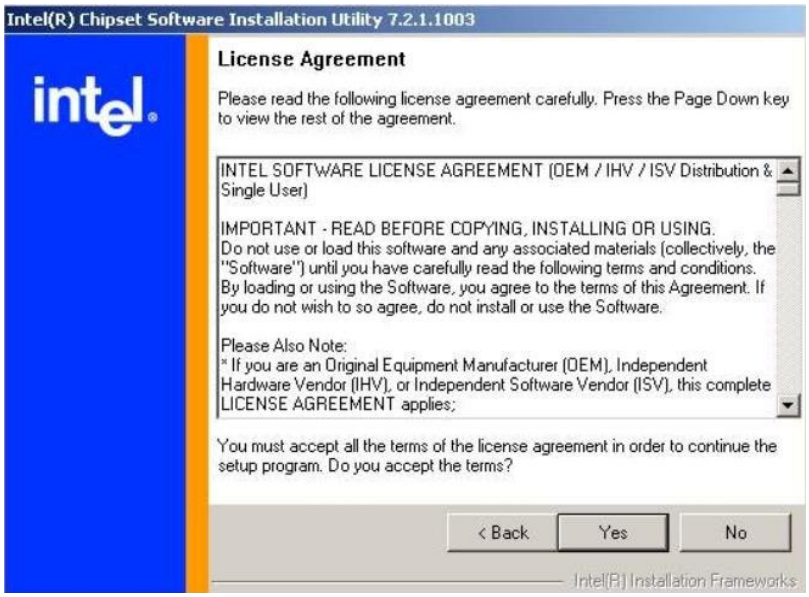
Step 5.3.3

Click **Next** to continue installation


Intel(R) Chipset Software Installation Utility 7.2.1.1003
intel
Welcome to the Intel(R) Chipset Software Installation Utility.
This program will install the Plug and Play components for the Intel(R) chipset that is on this system. It is strongly recommended that you exit all Windows programs before continuing.
< Back
Next >
Cancel
Intel(R) Installation Frameworks

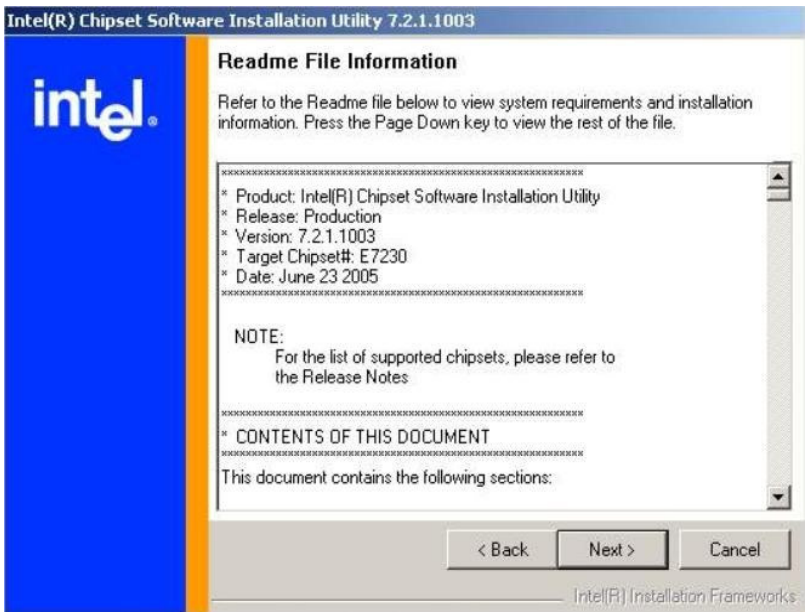
Step 5.3.4

Read the License Agreement. If you accept it, click **Yes** to continue.


Intel(R) Chipset Software Installation Utility 7.2.1.1003
intel
License Agreement
Please read the following license agreement carefully. Press the Page Down key to view the rest of the agreement.
INTEL SOFTWARE LICENSE AGREEMENT (OEM / IHV / ISV Distribution & Single User)
IMPORTANT - READ BEFORE COPYING, INSTALLING OR USING.
Do not use or load this software and any associated materials (collectively, the "Software") until you have carefully read the following terms and conditions. By loading or using the Software, you agree to the terms of this Agreement. If you do not wish to so agree, do not install or use the Software.
Please Also Note:
* If you are an Original Equipment Manufacturer (OEM), Independent Hardware Vendor (IHV), or Independent Software Vendor (ISV), this complete LICENSE AGREEMENT applies;
You must accept all the terms of the license agreement in order to continue the setup program. Do you accept the terms?
< Back
Yes
No
Intel(R) Installation Frameworks

Step 5.3.5

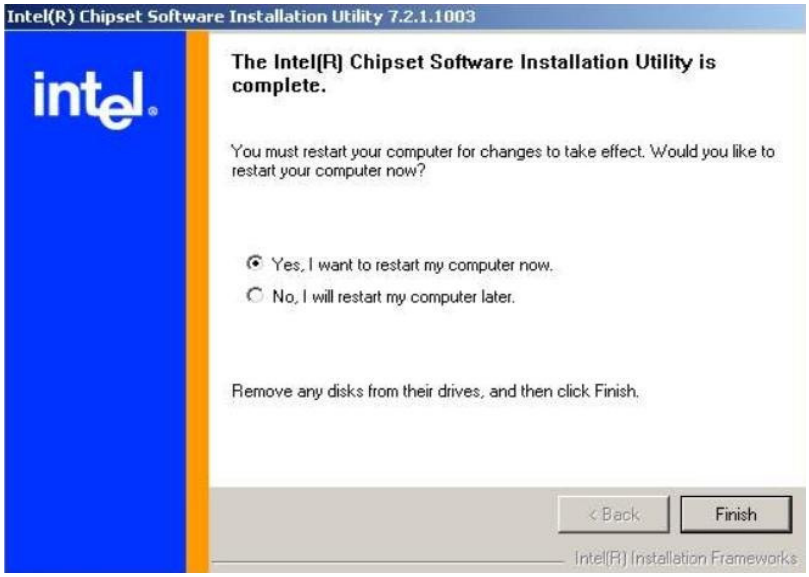
Read the **Readme** file and click **Next** button to continue the installation process.


Intel(R) Chipset Software Installation Utility 7.2.1.1003
Readme File Information
Refer to the Readme file below to view system requirements and installation information. Press the Page Down key to view the rest of the file.
* Product: Intel(R) Chipset Software Installation Utility
* Release: Production
* Version: 7.2.1.1003
* Target Chipset#: E7230
* Date: June 23 2005
NOTE:
For the list of supported chipsets, please refer to the Release Notes
* CONTENTS OF THIS DOCUMENT
This document contains the following sections:
< Back
Next >
Cancel
Intel(R) Installation Frameworks

Step 5.3.6

The program updates your computer driver files, and you are prompted to restart your computer.

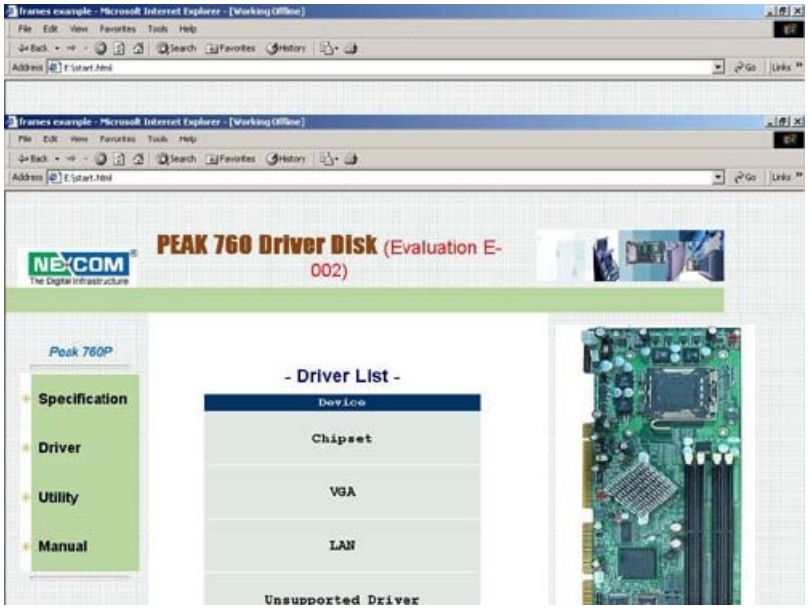
Click **Yes, I want to restart my computer now** and then click **Finish** button to reboot.


Intel(R) Chipset Software Installation Utility 7.2.1.1003
The Intel(R) Chipset Software Installation Utility is complete.
You must restart your computer for changes to take effect. Would you like to restart your computer now?
Yes, I want to restart my computer now.
No, I will restart my computer later.
Remove any disks from their drives, and then click Finish.
< Back
Finish
Intel(R) Installation Frameworks

5.4 Installing VGA

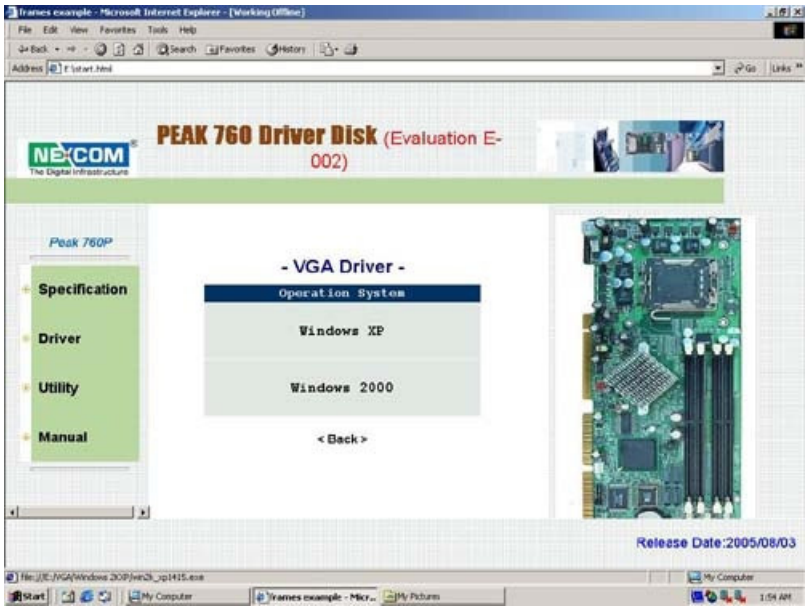
Step 5.4.1

Following the steps as shown below



Step 5.4.2

Select your Operation System



Step 5.4.3

Run this program from its current location then click **OK**

File Download
You have chosen to download a file from this location.
win2k_xp1415.exe from E:\VGA\Windows 2KXP
What would you like to do with this file?
Run this program from its current location
Save this program to disk
Always ask before opening this type of file
OK
Cancel
More Info

Step 5.4.4

Click **Yes** to continue installation.

Security Warning
Do you want to install and run "win2k_xp1415.exe from E:\VGA\Windows 2KXP"?
The publisher cannot be determined due to the problems below:
Authenticode signature not found.
Yes
No
More Info

Step 5.4.5

Click **Next** to continue installation.

Step 5.4.6

Click **Next** to continue installation.

Intel(R) Graphics Media Accelerator Driver
intel
Welcome to the setup for the Intel(R) Graphics Media Accelerator Driver.
This setup program will install Intel(R) Graphics Media Accelerator Driver onto your computer. It is strongly recommended that you exit all Windows programs before continuing setup.
< Back
Next >
Cancel
Intel(R) Installation Frameworks

Step 5.4.7

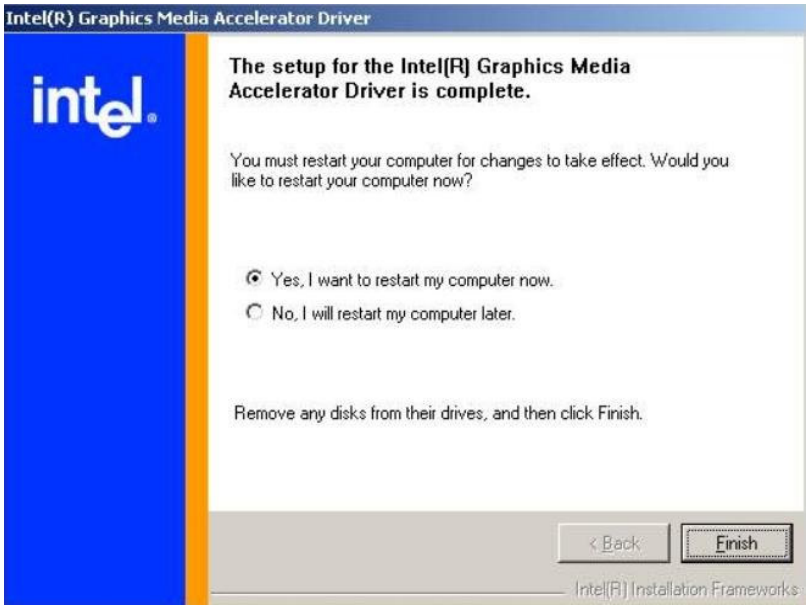
Read the License Agreement. If you agree it, click **Yes** to continue.

Intel(R) Graphics Media Accelerator Driver
intel
License Agreement
Please read the following license agreement carefully. Press the Page Down key to view the rest of the agreement.
INTEL SOFTWARE LICENSE AGREEMENT (OEM / IHV / ISV Distribution & Single User)
IMPORTANT - READ BEFORE COPYING, INSTALLING OR USING.
Do not use or load this software and any associated materials (collectively, the "Software") until you have carefully read the following terms and conditions. By loading or using the Software, you agree to the terms of this Agreement. If you do not wish to so agree, do not install or use the Software.
Please Also Note:
* If you are an Original Equipment Manufacturer (OEM), Independent Hardware Vendor (IHV), or Independent Software Vendor (ISV), this complete LICENSE AGREEMENT applies;
You must accept all the terms of the license agreement in order to continue the setup program. Do you accept the terms?
< Back
Yes
No
Intel(R) Installation Frameworks

Step 5.4.8

The complete installation screen appears.

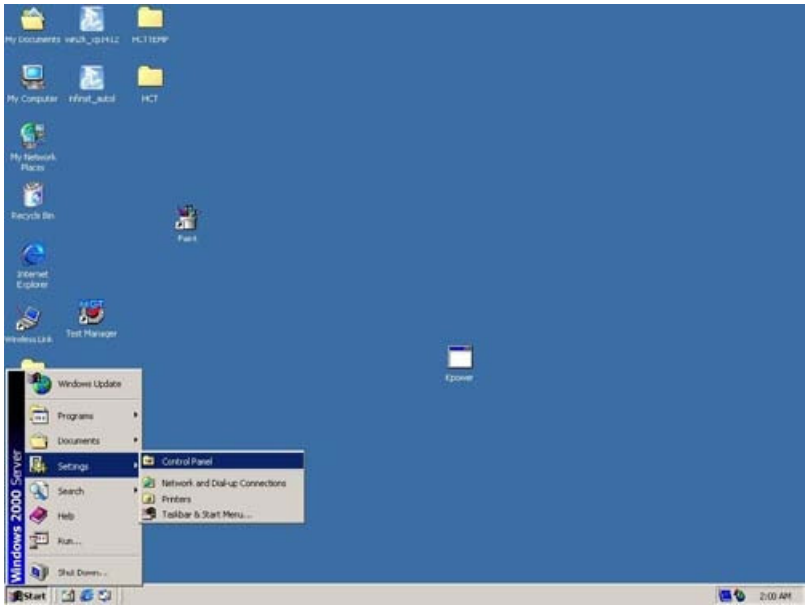
Select **Yes, I want to restart my computer now**, and click **Finish** to reboot your computer.


Intel(R) Graphics Media Accelerator Driver
intel
The setup for the Intel(R) Graphics Media Accelerator Driver is complete.
You must restart your computer for changes to take effect. Would you like to restart your computer now?
Yes, I want to restart my computer now.
No, I will restart my computer later.
Remove any disks from their drives, and then click Finish.
< Back
Finish
Intel(R) Installation Frameworks

5.5 Installing the LAN

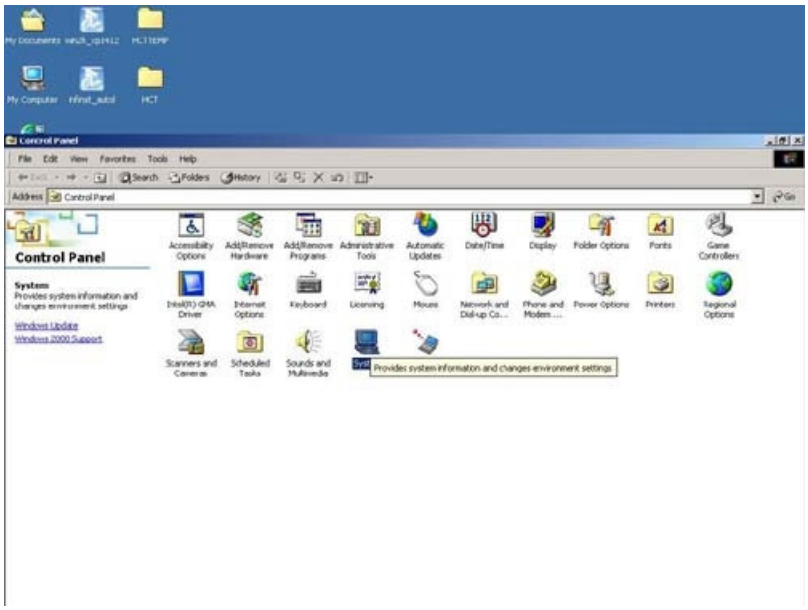
Step 5.5.1

Double click the **Control Panel** icon to open it.



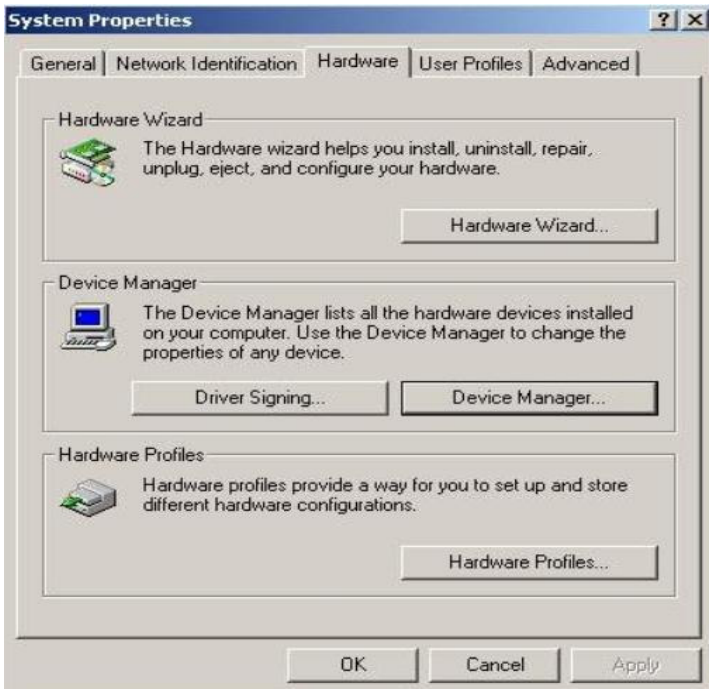
Step 5.5.2

Double click the **System** icon.



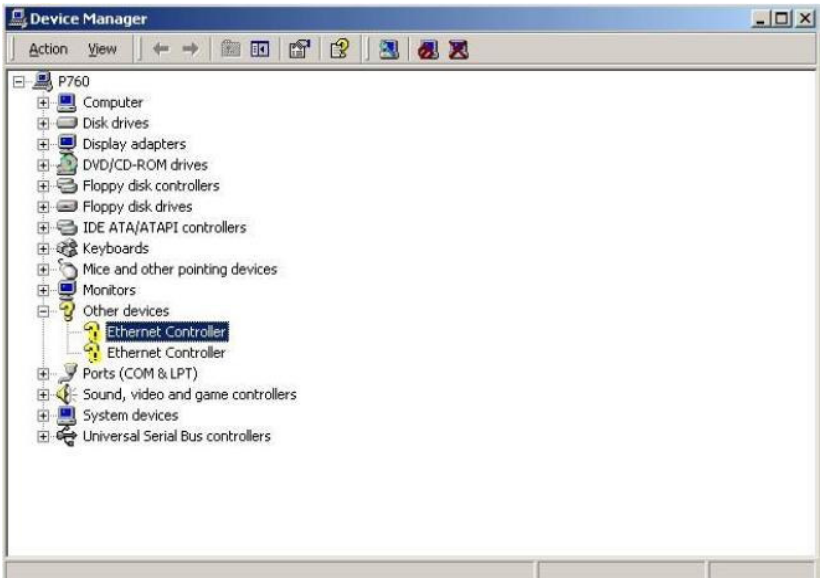
Step 5.5.3

In the system properties dialog, click to open the **Hardware** page and then click **Device Manager** button on the page**.**


System Properties
General
Network Identification
Hardware
User Profiles
Advanced
Hardware Wizard
The Hardware wizard helps you install, uninstall, repair, unplug, eject, and configure your hardware.
Hardware Wizard...
Device Manager
The Device Manager lists all the hardware devices installed on your computer. Use the Device Manager to change the properties of any device.
Driver Signing...
Device Manager...
Hardware Profiles
Hardware profiles provide a way for you to set up and store different hardware configurations.
Hardware Profiles...
OK
Cancel
Apply

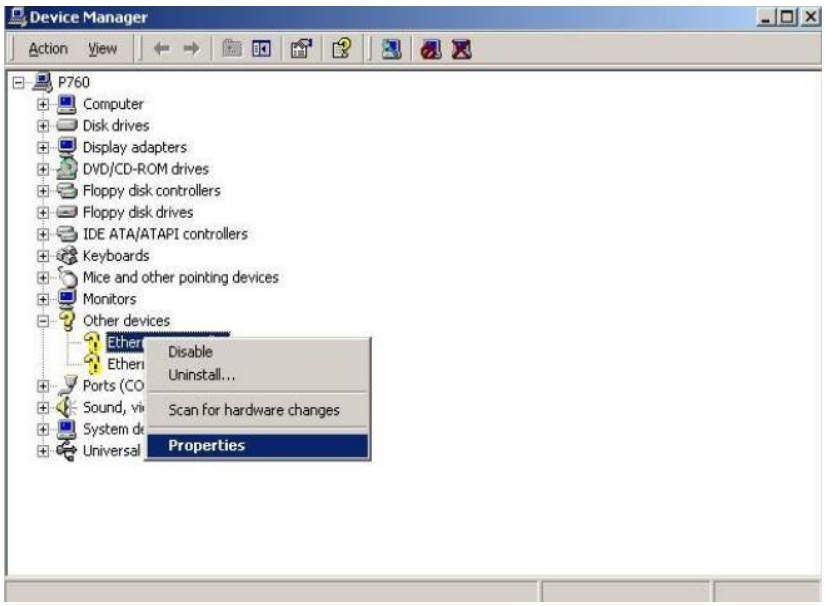
Step 5.5.4

Click on the **Ethernet Controller**



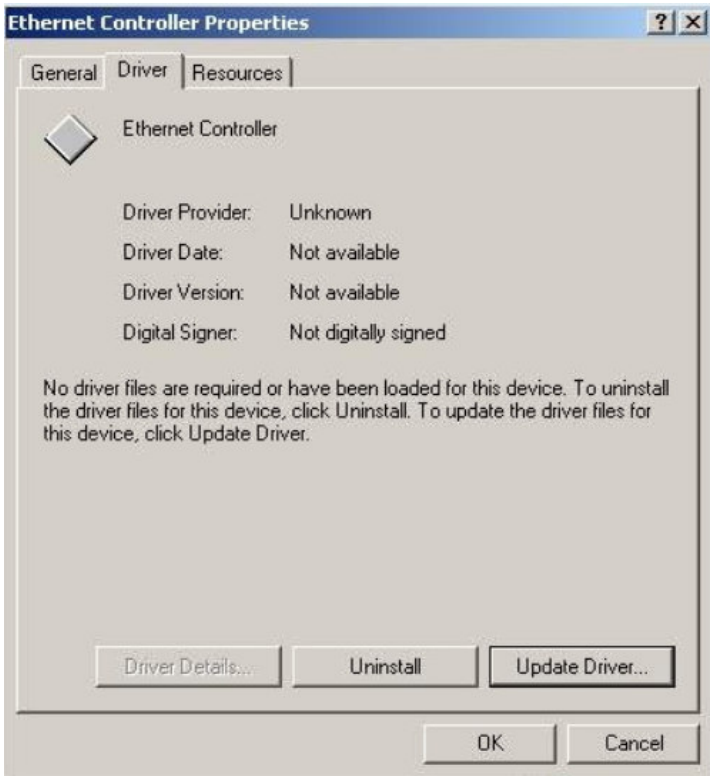
Step 5.5.5

Click right button on the Mouse, then click **Properties**



Step 5.5.6

Then click **Update driver**


Ethernet Controller Properties
General
Driver
Resources
Ethernet Controller
Driver Provider: Unknown
Driver Date: Not available
Driver Version: Not available
Digital Signer: Not digitally signed
No driver files are required or have been loaded for this device. To uninstall the driver files for this device, click Uninstall. To update the driver files for this device, click Update Driver.
Driver Details...
Uninstall
Update Driver...
OK
Cancel

Step 5.5.7

Click **Next**

Upgrade Device Driver Wizard
Welcome to the Upgrade Device Driver Wizard
This wizard helps you upgrade a device driver for a hardware device.
To continue, click Next.
< Back
Next >
Cancel

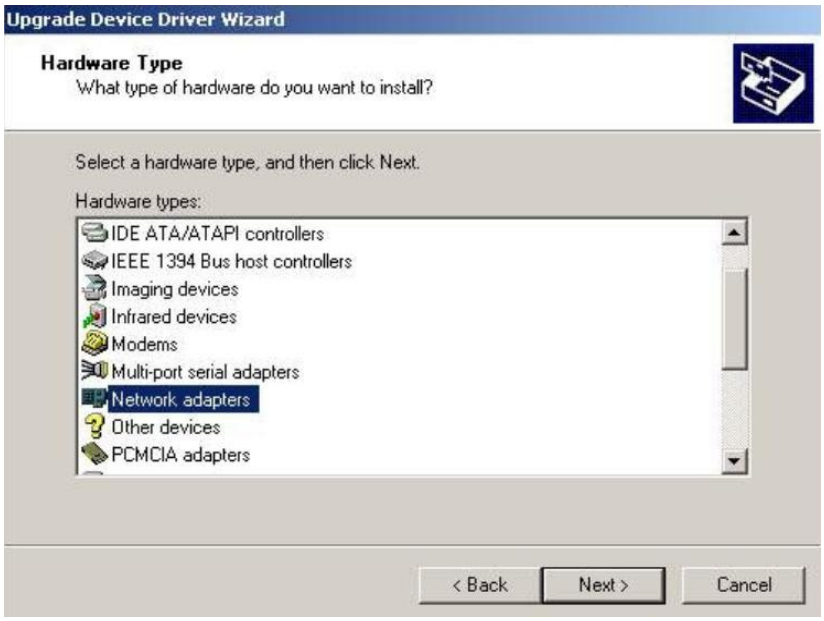
Step 5.5.8

Click **Next**

Upgrade Device Driver Wizard
Install Hardware Device Drivers
A device driver is a software program that enables a hardware device to work with an operating system.
This wizard upgrades drivers for the following hardware device:
Ethernet Controller
Upgrading to a newer version of a device driver may add functionality to or improve the performance of this device.
What do you want the wizard to do?
Search for a suitable driver for my device (recommended)
Display a list of the known drivers for this device so that I can choose a specific driver
< Back
Next >
Cancel

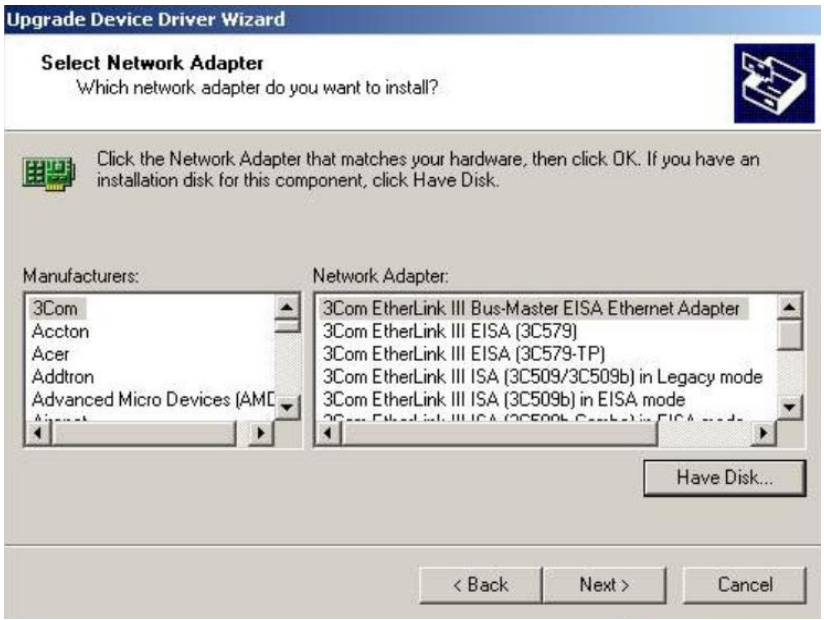
Step 5.5.9

Choose **Network Adapters** and click **Next**



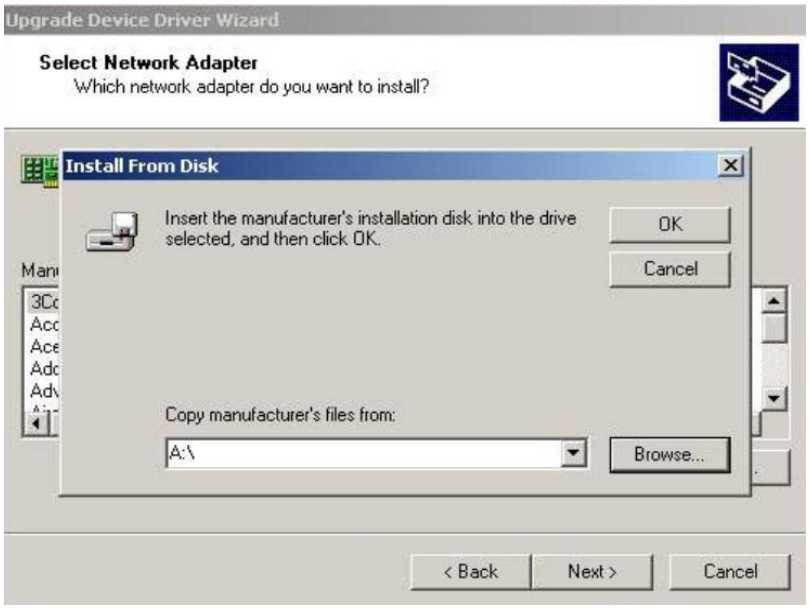
Step 5.5.10

Choose **Have Disk**


Upgrade Device Driver Wizard
Select Network Adapter
Which network adapter do you want to install?
Click the Network Adapter that matches your hardware, then click OK. If you have an installation disk for this component, click Have Disk.
Manufacturers:
3Com
Accton
Acer
Addtron
Advanced Micro Devices (AMD
Network Adapter:
3Com EtherLink III Bus-Master EISA Ethernet Adapter
3Com EtherLink III EISA (3C579)
3Com EtherLink III EISA (3C579-TP)
3Com EtherLink III ISA (3C509/3C509b) in Legacy mode
3Com EtherLink III ISA (3C509b) in EISA mode
Have Disk...
< Back
Next >
Cancel

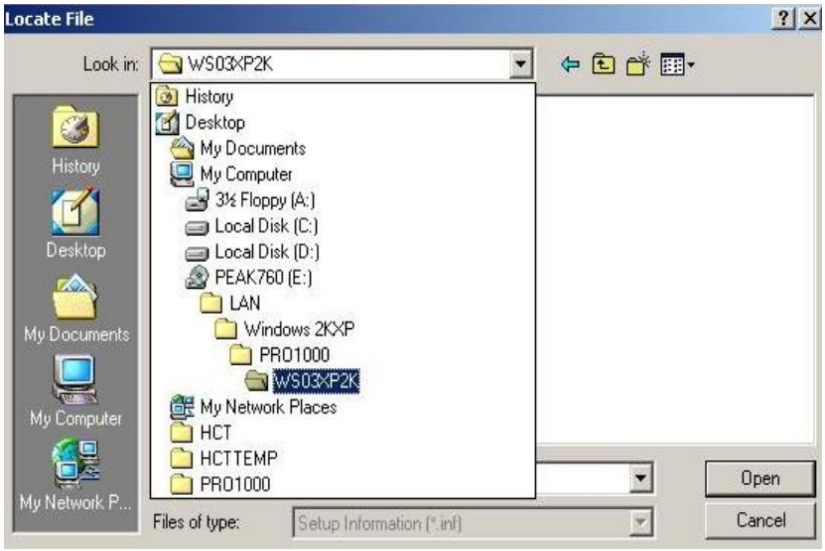
Step 5.5.11

Click **Browse**



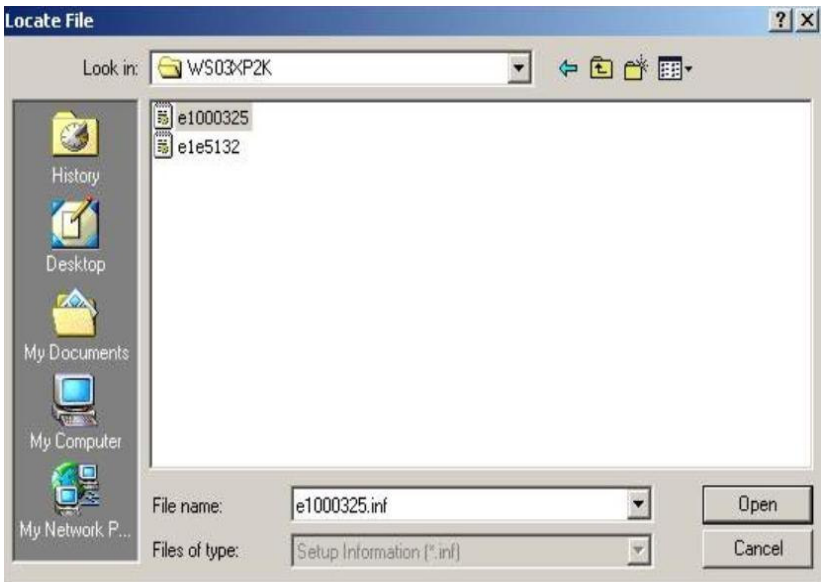
Step 5.5.12

Choose LAN\Windows 2KXP\PRO1000**WS03XP2K** as shown below



Step 5.5.13

Choose **e1000325.inf** to open the file then click **OK**

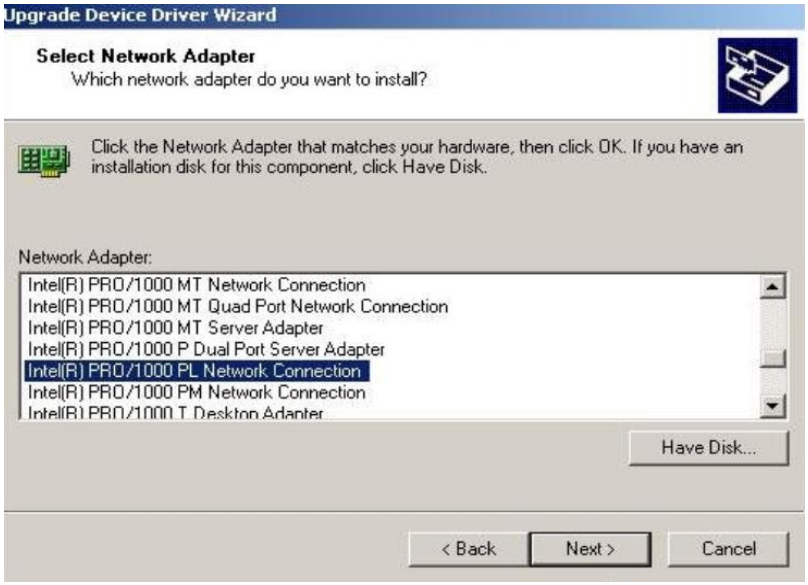


Step 5.5.14

Click **OK**

Step 5.5.15

Choose **Intel® PRO/1000 PL Network Connection**, then click **Next**


Upgrade Device Driver Wizard
Select Network Adapter
Which network adapter do you want to install?
Click the Network Adapter that matches your hardware, then click OK. If you have an installation disk for this component, click Have Disk.
Network Adapter:
Intel(R) PRO/1000 MT Network Connection
Intel(R) PRO/1000 MT Quad Port Network Connection
Intel(R) PRO/1000 MT Server Adapter
Intel(R) PRO/1000 P Dual Port Server Adapter
Intel(R) PRO/1000 PL Network Connection
Intel(R) PRO/1000 PM Network Connection
Have Disk...
< Back
Next >
Cancel

Step 5.5.16

To continue the installation, click **Yes**

Update Driver Warning
Installing this device driver is not recommended because Windows cannot verify that it is compatible with your hardware. If the driver is not compatible, your hardware will not work correctly and your computer might become unstable or stop working completely. Do you want to continue installing this driver?
Yes
No

Step 5.5.17

To continue the installation, click **Next**

Upgrade Device Driver Wizard
Start Device Driver Installation
The device driver will be installed with the default settings.
The wizard is ready to install the driver for the following hardware device:
Intel(R) PRO/1000 PL Network Connection
Windows will use default settings to install the software for this hardware device. To install the software for your new hardware, click Next.
< Back
Next >
Cancel

Step 5.5.18

To close this wizard, click **Finish**.

Upgrade Device Driver Wizard
Completing the Upgrade Device Driver Wizard
Intel(R) PRO/1000 PL Network Connection
Windows has finished installing the software for this device.
To close this wizard, click Finish.
< Back
Finish
Cancel

Appendix A
Watchdog Timer

The PEAK 760 features a watchdog timer that reset the CPU or generates an interrupt if the processor stops operating for any reason. This feature ensures system reliability in industrial standalone or unmanned environments.

Panel Button De-bounce Base Address LSB Register (Index=65h, Default=00h)

Bit	Description
7-0	Read/write, mapped as Base Address [7:0]

Panel Button De-bounce Interrupt Level Select Register (Index=70h, Default=00h)

Bit	Description
7-4	Reserved
3-0	Select the interrupt level (note1) for Panel Button De-bounce

Watch Dog Timer Control Register (Index=71h, Default=00h)

Bit	Description
7	WDT is reset upon a CIR interrupt.
6	WDT is reset upon a KBC (mouse) interrupt.
5	WDT is reset upon a KBC (keyboard) interrupt.
4	WDT is reset upon a read or a write to the Game Port base address.
3-2	Reserved
1	Force Time-out. This bit is self-clearing.
	WDT Status
0	1:WDT value reaches 0.
	0:WDT value is not 0.

Watch Dog Timer Configuration Register (Index=72h, Default=00h)

Bit	Description
	WDT Time-out value select
7	1:Second
	0:Minute
6	WDT output through KRST (pulse) enable
5-4	Reserved
3-0	Select the interrupt level (note1) for WDT.

Watch Dog Timer Time-Out Value Register (Index=73h, Default=00h)

Bit	Description
7-0	WDT time-out value 7-0

Sample Code:

```
;Enter config mode
out 2E, 87h
out 2E, 01h
out 2E, 55h
out 2E, 55h
```

```
;Set LDN=7
out 2E, 07h
out 2F, 07h
```

```
;Set WDT enable, second mode
out 2E, 72h
out 2F, 0C0h
```

```
;Set value=3
out 2E, 73h
out 2F, 03h
```

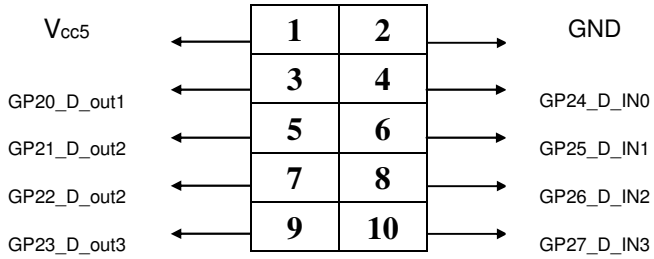
Appendix B
GPI/O

GPIO User Guide

Digital I/O UESD Port 801

GP27_D_IN3	GP26_D_IN2	GP25_D_IN1	GP24_D_IN0	GP23_D_out3	GP22_D_out2	GP21_D_out1	GP20-_D_out0
I3	I2	I1	I0	O3	O2	O1	O0
{	Iput		}	{	Output		}

J34



Prepared by Zack at Taipei